Arab Republic of Egypt

وزارة التربية والتعليم

General Administration for the development of computer, information and communication technology

Centre for Curriculum and Educational Subjects Development

Computer, Information Technology and Communication

First Year Prep

Second Term

2017– 2018

Computer, Information Technology and Communication

First Year Prep School
Second Term

Prepared by

Dr. Taher Abd El Hameed EL Aly

Curriculum Expert and President of Computer and Information Technology in NCCD

Dr. Amany Qurany Ibrahim

Director General of the development of computer and information and communication technology

Abeer Hamed Ahmed

Director at the General Administration of Developing Computer and Information Technology

Nagwa Sadek Ibrahim

Director at the General Administration of Developing Computer and Information Technology

The Committee was aided (preparing scientific material)

Roshdy Salem Mohamed

Computer and Information Technology Supervisor , Cairo

Dena Mohamed Swidan

Director at the General Administration of Developing Computer and Information Technology

Revised by

Prof. El Ghareeb Zaher Ismail

Professor of Educational Technology

Vice Dean

Faculty of Education – University of Mansoura

Scientific revision

Translation Team

Dr. Taher Abd El Hameed EL Aly

Curriculum Expert and President of Computer and Information Technology in NCCD

Dr Amany Qurany Ibrahim

Director General of the development of computer and information and communication technology

Ameera Fawzy Ahmed Yusef

Head of Foreign Language Department

National Center for Curricula Development

Ahmed Elshabrawy ElTokhy

English Language expert

National Center for Curricula Development

Reda Ramadan Shalaby

English Senior Supervisor

Gharbia

Mahmoud Ibrahim ElMehy

English Supervisor

Qalyubia Directorate

Nessreen Bahgat Muhammed

English Supervisor

East Alexandria Directorate

Introduction

In our age, education is a decisive factor in determining the future of our world: states and individuals. This imposes the need to keep up with the institution of technological and scientific progress. This has resulted in change in the evaluation of society standards according to the extent of its development in information technology and the ability to switch from marginal and consuming communities to communities producing knowledge.

We are confident that we have the brains, abilities and energies that enable us to achieve our ambition. We just need to work hard to invest our energy and our available capabilities and work to discover talented creators of our children. The philosophy of computer and information and communications technology aims at providing a variety of alternatives to the software. That's why we have selected open source software (operating under MS WINDOWS) as well as other operating systems, so as to achieve the logical sequence in the scientific content and takes into account the integrated aspects of the personality of the learner in the light of criteria and indicators included in the matrix of the long relay of the material presented.

The second Semester consists of two units. The first unit is about an introduction of basics of dealing with the internet and its services, the cloud computing technology and the safe internet usage. This covers the basic skills and concepts of Computer and information technology. The second unit is about Scratch program to develop the learners' abilities to create and design images and cartoon. Evaluation is done through some activities and different exercises and projects to reinforce the skills of self-learning to reach an everlasting learning society.

‘‘‘ With All best wishes

Work Team

Table of Content

Page	Topics
6	Unit One Scratch Program
7	First Topic: Basic programming concepts using Scratch
30	Second Topic: Using motion and Control (repetition) blocks
53	Third Topic: Dealing with Stage Backdrop and Sprites Costumes
85	Fourth Topic: Using Pen and Sound blocks
103	Fifth Topic: Using Sensing and Control (If Then) blocks
121	Sixth Topic: Design and create a project
126	Unit Two Internet
127	First Topic: Basic Concepts of The Internet.
136	Second topic: Some internet Services
153	Third Topic: Basic concepts of Cloud Computing
170	Fourth Topic: Cloud Computing Services
186	Fifth Topic: Internet safety

Unit One

Dealing with the basics of programming and logical thinking through Scratch Program

After the end of this unit, the student is expected to be able to:

1. identify technological and programming production software (Scratch).
2. employee some technological and programming production tools in the implementation of educational activities.
3. recognize some scientific concepts and terminology for Scratch program
4. recognize the basics of programming and logical thinking through Scratch program.
5. identify problem solving in an easy and interesting ways.
6. employee the program producing simple creative projects.
7. design an interactive story using Scratch program.
8. Collaborate his colleagues in production.

The first topic

Basic programming concepts using Scratch

At the end of this topic the student is expected to be able to:

- explains Scratch program.
- Identifies the important of Scratch program.
- Recognize the Scratch program interface.
- Determine work areas of Scratch program.
- Employ some motion, control and event blocks to produce the project.
- Participates his colleagues in producing educational Game.

Scratch program

Dear student to learn programming at an early age helps develop logical thinking skills and problem solving and evaluation and analysis in addition to communication skills, teamwork and cooperation, all the skills necessary for success and participatory action.

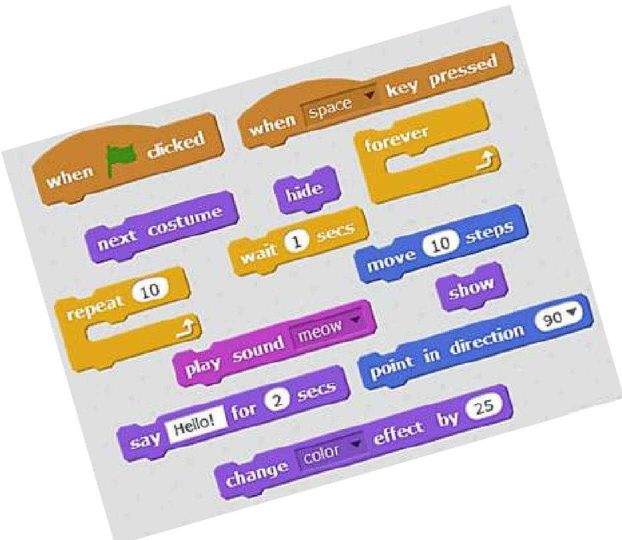
In this unit we will show "Scratch" software which is used in educational programming language which is simple and it's a graphical language, this program will help you:

• Develop logical thinking and problem solving.

• Design games and interactive stories and animated images by applying some of the concepts.

Scratch software features interface is available in English and Arabic.

Scratch 2.0 uses blocks or commands that are placed on top of each other in a specific order to achieve the desired effect, and the programming of various objectives like playing with blocks Puzzle, so turn your idea just only forms to forms and animations





Define scratch program

Scratch is a graphical programming tool and different from other conventional programming languages because they are designed specifically to teach programming in a Visual and logical steps to do a neat steps using imagination and creativity and participation, are the best tools for this purpose, through interactive stories and games design work and design graphics and animated forms in addition to audio effects on projects designed by yourself, you can share programs and files that are produced through the Internet.

Scratch software features:

1. Helps to learn the fundamentals and concepts of programming, such as conditions and repetitions and identify sprites in a simple

2. Free software can be accessed from the Internet https://scratch.mit.edu

3. you can deal with it, whether you're connected to the Internet or without an Internet connection

4.Fully Supports Arabic language

5. You can use the Scratch software to work and design applications serve the rest of the scientific material manner depends on the innovation and application

6. You can set up programs in an easy way by installing orders with each other, such as dealing with the puzzle cubes

7. helps to think in a logical way visually without relying on saving in the order of commands and steps.

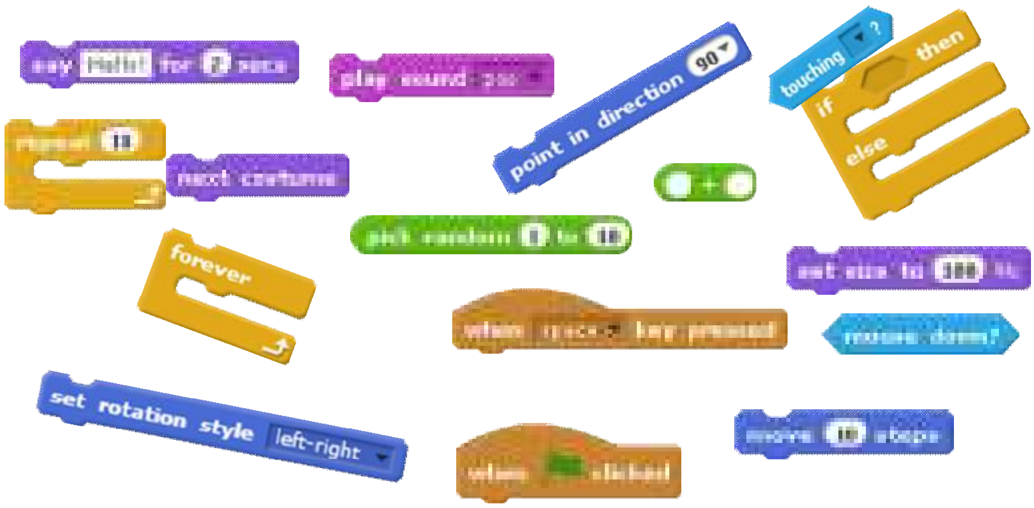
8. Scratch can be run on different operating systems such as windows, Linux,....

Ways to run Scratch program

Dear student you can handle Scratch program through the following website https://scratch.mit.edu/scratch2download using one of the following ways:

First: you can run the program while your computer is connected to the Internet (ONLINE).

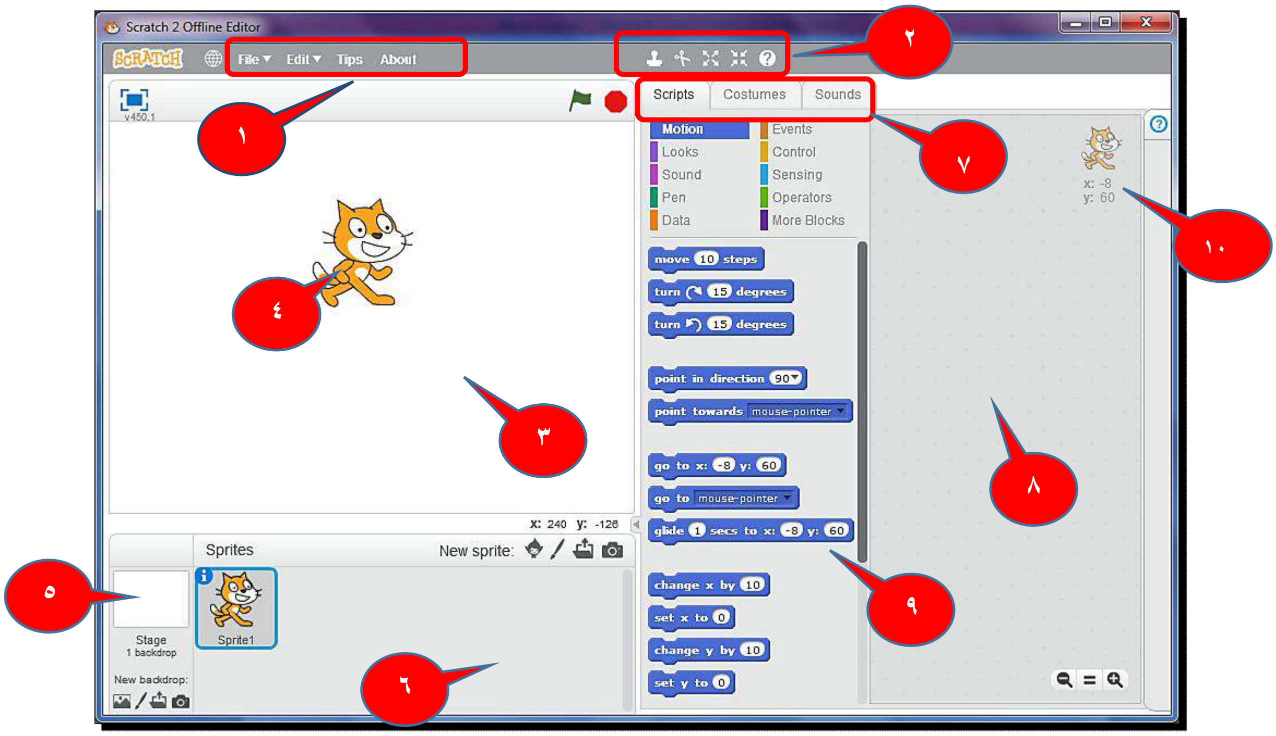
Secondly: you can download a copy of the program on your computer, in which case you won't need Internet connection so you can use it without Internet (Offline)



Interface of scratch program

Activity (1)

Dear student: Cooperating with your classmates and with the help of the teacher, Identify the interface of scratch program.



....

The most important features of Scratch program interface:

1. menu bar.
2. toolbar.

3-Stage area (it appears as a result of work or project).

4. The Sprite.
5. the backdrop of the stage (you can add different backgrounds to stand).
6. Sprites Area (numbers of sprites used by the project).
7. tabs (Script-Costumes-Sound).
8. the Script Area (the code sections gather "installing a set of drawing commands in a specific order).
9. Blocks Area(command sets area.)

10-point (X, Y) represents the position of the sprite on the platform Stage

Change scratch interface to Arabic

Activity (2)

Dear student : Cooperating with your classmates and with the help of the teacher:

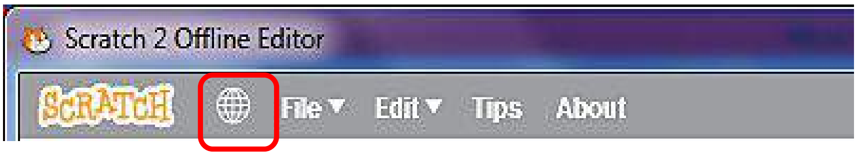
Try to change the scratch interface to Arabic

……………………………………………………………………………………………………

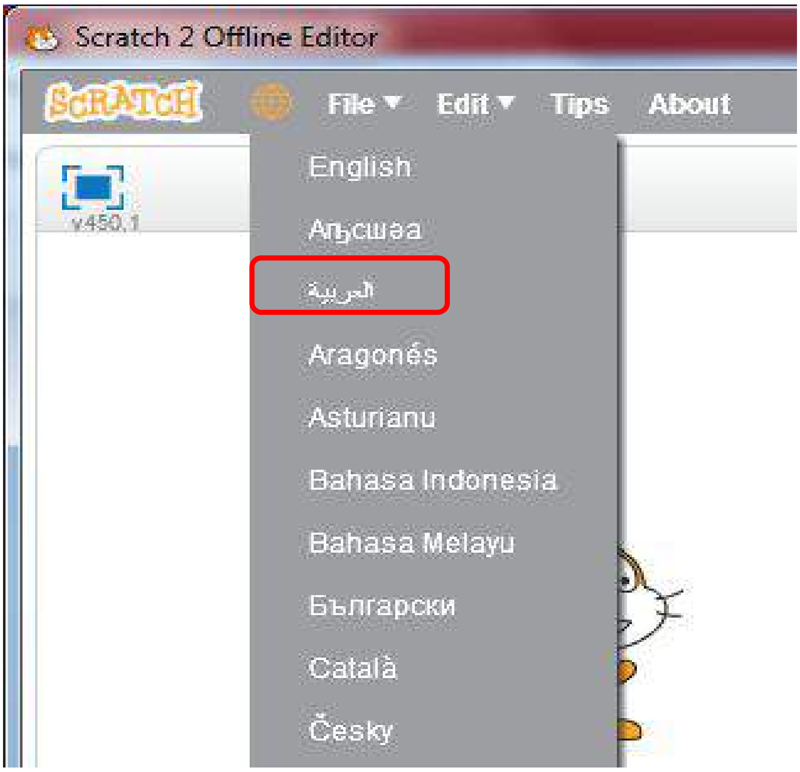
……………………………………………………………………………………………………

Dear student: so that you can change the interface language Scratch program follow these steps:

1. from the menu bar of the program click on the icon shown in the following figure:



2. from the drop-down list that contains many languages choose Arabic as follow



3. Note the change program interface language to Arabic language and appear as follows::



Identify the Stage area

Activity (3)

Dear student : Cooperating with your classmates and with the help of the teacher:

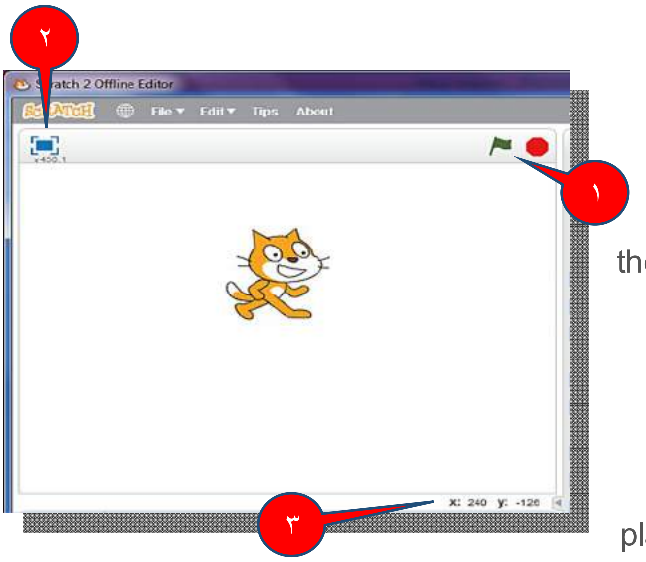
Identify the Stage area of the scratch program

…………………………………………………………………………………………………

…………………………………………………………………………………………………

Dear student Stage area is the area that appears as a result of your project:

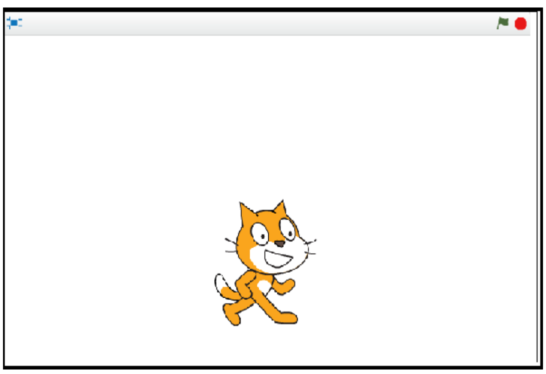
We note the following



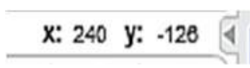


1. shows the highest platform symbol and represents the control start and stop the program

2. Uses the icon  in size the platform Stage to full screen as follows

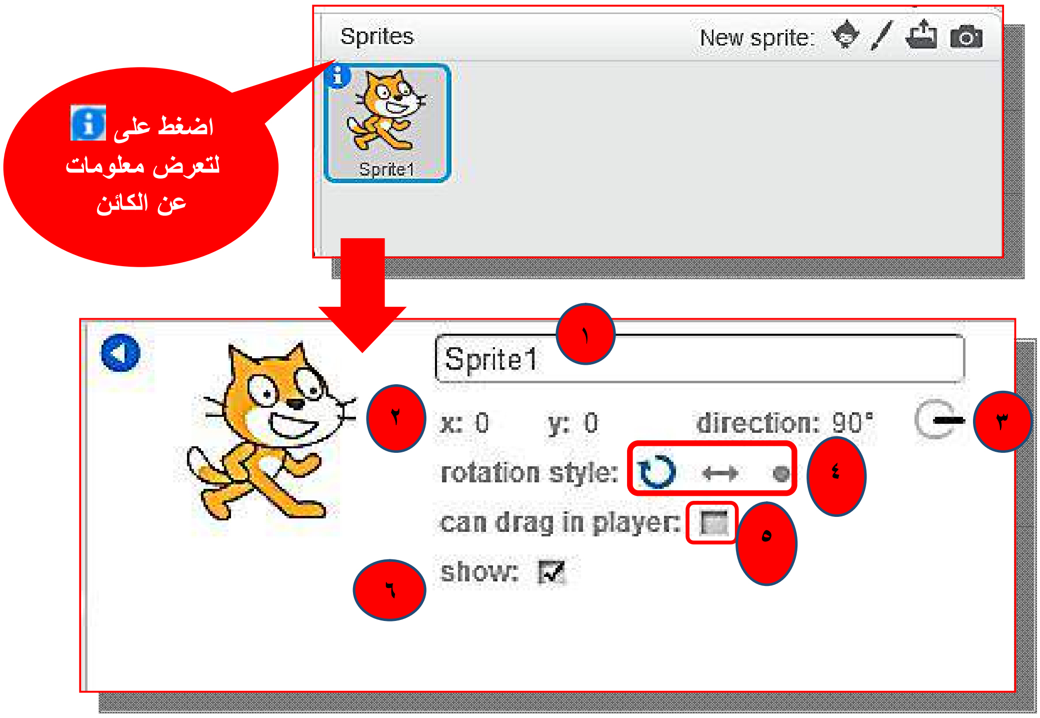


3. **Press this icon**  **return to the default screen.**

4. **mouse** Coordinate Status**(X,Y) Stage.** 

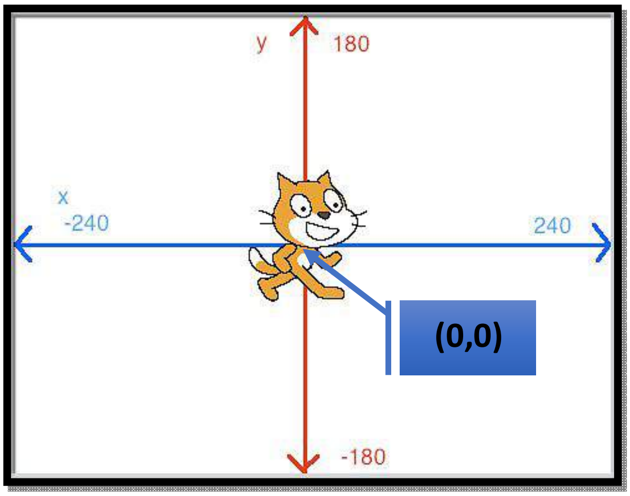
(Sprite Information)

Dear student so you can view information about the object (Sprite), click on the symbol 



1. the Sprite name (you can modify it).
2. place the sprite and determined (horizontal axis values X and y values of the vertical axis, note the current location of the sprite (cat) on the stage is ((0, 0)
3. the direction of movement of the sprite (you can change direction by moving the blue line).
4. the sprite rotation style (you can choose the style you want by clicking the mouse).
5. the possibility of using the mouse, drag the sprite while running the project.
6. choose Show or hide sprite from the stage.

Stage Coordinates



Dear student you can:

Control change where the Sprite on the stage by clicking it (drag and drop) Drag & Drop.

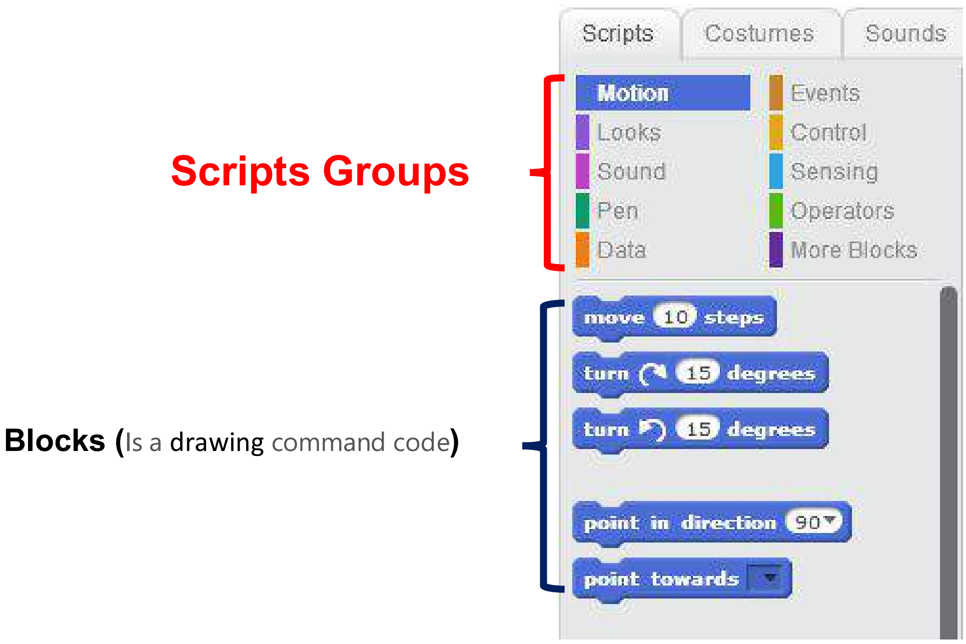
• Identify the dimensions of the platform Stage X on the horizontal axis (positive direction negative direction "left the stage"), and the vertical axis Y (positive direction "at the top of the stage," negative direction "down the platform").

• You can locate a sprite (cat) left the stage with the value of (x, y) values (−220, 0) where the value of Y = 0, X = 220.Coordinates

Scripts Tab

Scripts tab:

A different sets of Blocks (graphical commands for each group), which are used in programming sections, each set with a color different from the rest of the other groups as shown in the following figure



Code blocks:

the collections of blocks that are install in Scripts Area in a particular order (as install game Puzzles)

Activity (4)

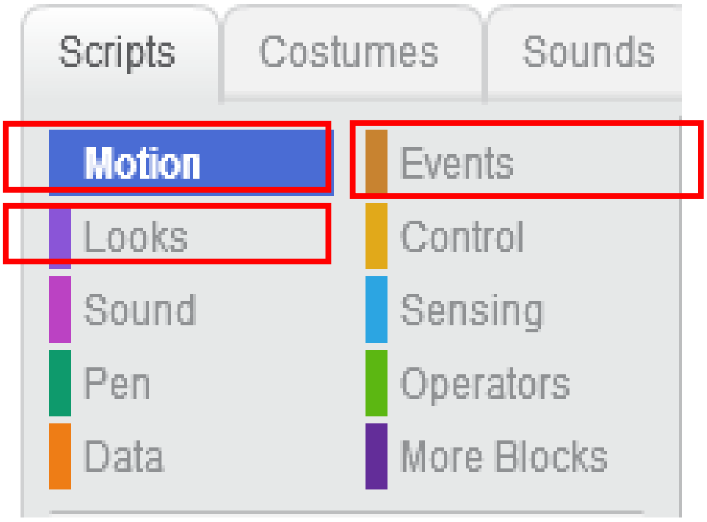
Dear student :Cooperating with your classmates and with the help of the teacher:

Identify various Scripts and Blocks sets the color of each group.

……………………………………………………………………………………………

……………………………………………………………………………………………

Dear student will review some Scripts that help you design and create your project as follows:

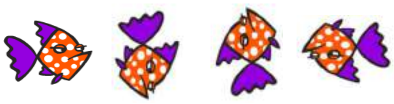


1. **Motion**: contains Blocks (commands) used in the movement of sprites or the rotate or identify directions on the stage.
2. .**Events**: contains Blocks used to determine event which is located (or events) on sprites to start implementation of the project (such as pressing a key on the keyboard or click on the sprite.)

3. **Looks**: contain Blocks using control patterns and shapes of sprites and colors.

Motion Blocks

Identify some Blocks "commands" set Motion such as:

describe	Motion block
The sprite moves a certain number of steps (10 steps), you can change the value of the steps.	
The sprite Direction of movement (right-left-top-down). 	
(**x , y**) sprite to transition point place (the horizontal axis and the vertical axis) on the stage and you can change its value	

Activity (5)

Dear student: teacher assistance and collaboration with colleagues, move the sprite (cat) on the Stage with movement, record your notes when you change the value of steps

……………………………………………………………………………………………

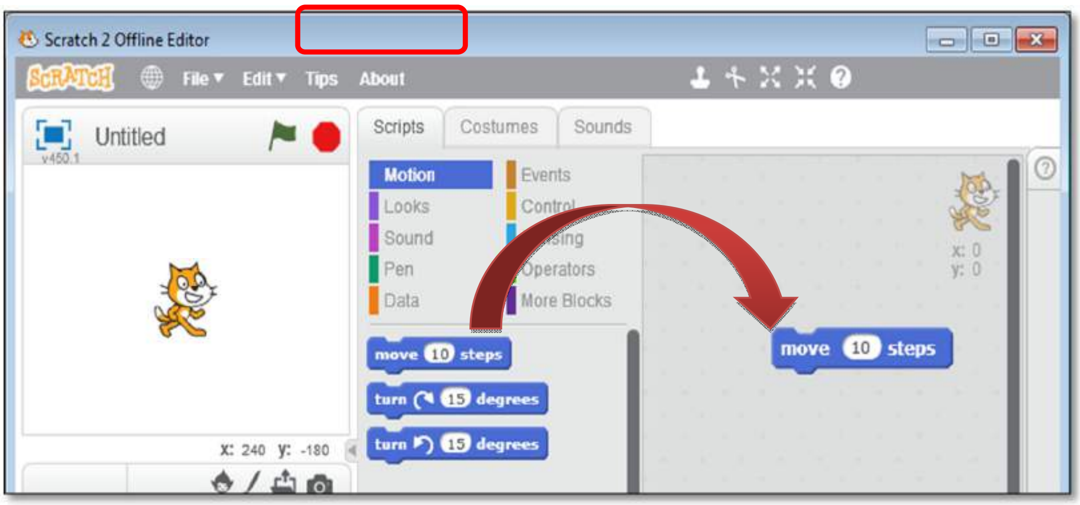
……………………………………………………………………………………………



Dear student: so that you can move the sprite on the Stage, follow these steps:

1- from Motion group drag and drop 

in the Script Area as in Figure:



2- Mouse click on the 

block in the script area.

What do you notice?

Move the sprite on the stage by Stage 10 steps.

-You can change the value of the steps in the 

previous command (30) and pressing it again.

Dear student, note the following:

• Move the sprite on the stage by the value written on the move block.

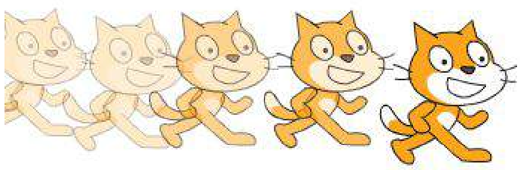
• To experience any of the blocks group, you can click on it with your mouse, and note the effect on the active sprite

Control Blocks

Activity (6)

Dear student: Cooperate with your classmates and with the help of the teacher:

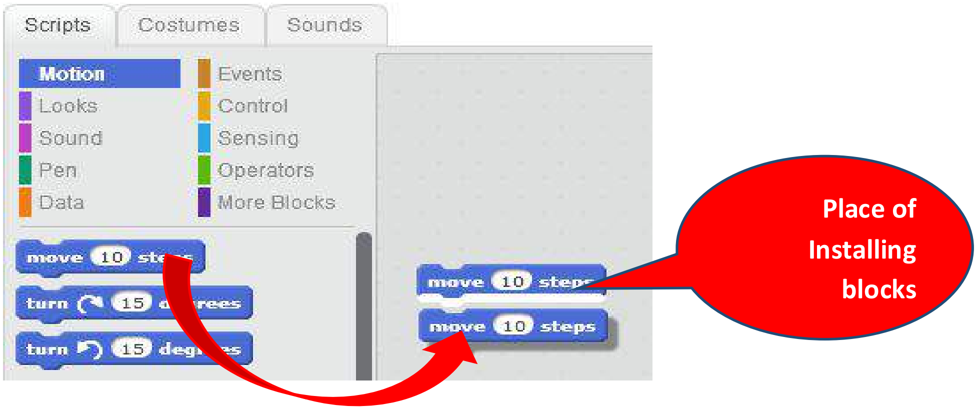
Collect of code blocks in scripts area to do a simple project which shows constant movement to the sprite on the stage using the Motion Control Blocks



Dear student remarked that arrange collection of code blocks that give specific steps represent a simple project, to do this follow the instructions

from Motion group drag and drop 

in the Script Area.



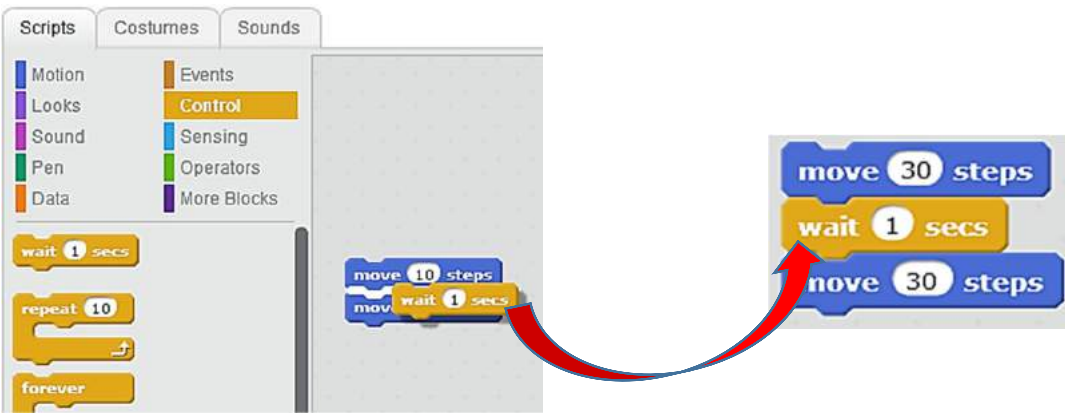
-To make constant movement (s) add move block again and combination0020under previous command as follows:

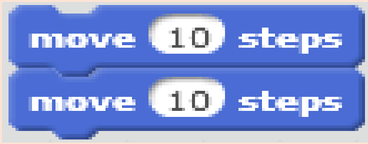
-Notice that white line down to clarify the place of snapping.

-Note that when executing the previous project, the movement was quickly to address it can use the Wait command (waiting) of Control Blocks with the following

Drag &drop block in 

script area as figure:



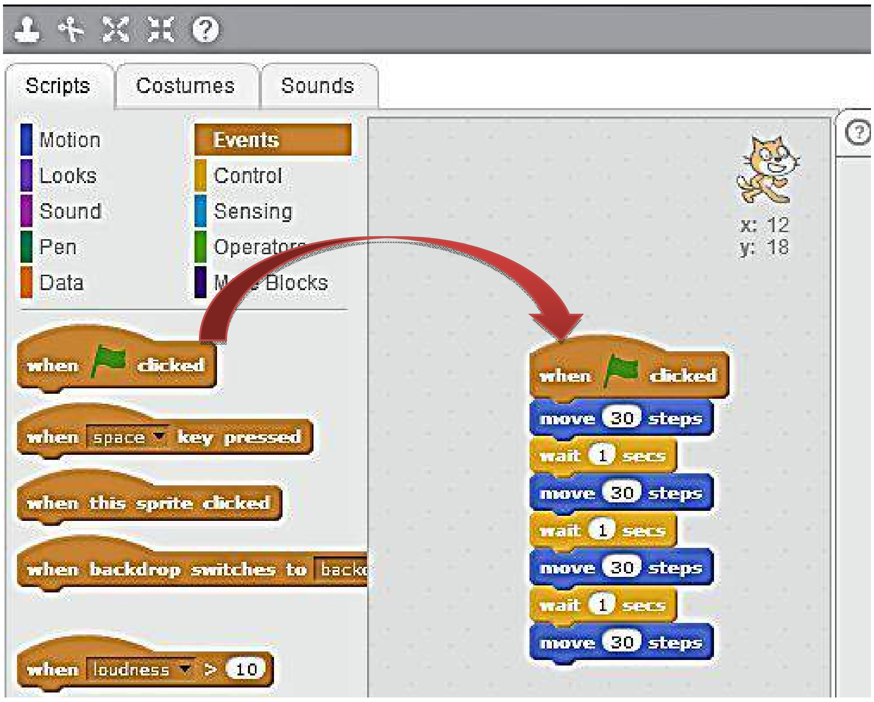
First step	Second step	Third step
		
Put move blocks	Wait command is installed in the specified location and shows a white line between the two move blocks	The final form of the section after installing the script blocks in order of execution

Important notes:

- The waiting value is (1).
- Installation of a set of commands in a specific order called the compiler section.
- Use pressure and drag-and-drop to handle any order (within) the compiler section.
- To make continuous motion you can install it several times.

Event Blocks

Dear student to view the implementation of the project in the script section Script Area use  Event Blocks, to be installed in the top section of code blocks:



Note that:

–To implement the project with the event  click on the icon  , and to stop execution press the icon. 

–For the installation of any of the commands section compiler, we start dragging it lower down the standings, where it separates with other commands.

Remember

Sprite Information :

−You can modify the name of the sprite

– you can change the location of the sprite by changing the values of the X, Y)).

−You can control the direction of movement of the sprite and the sprite's rotation pattern.

−There is a possibility to drag the sprite with the mouse if you run the project.

−You can control the show or hide a sprite on the stage.

Script tab

Motion: contains Blocks (commands) used in the movement of sprites or the rotate or identify directions on the stage −.

Events: contains Blocks used to determine event which is located (or events) on sprites to start implementation of the project (such as pressing a key on the keyboard or click on the sprite.)

Looks: contain Blocks using control patterns and shapes of sprites and colors.

Code blocks :

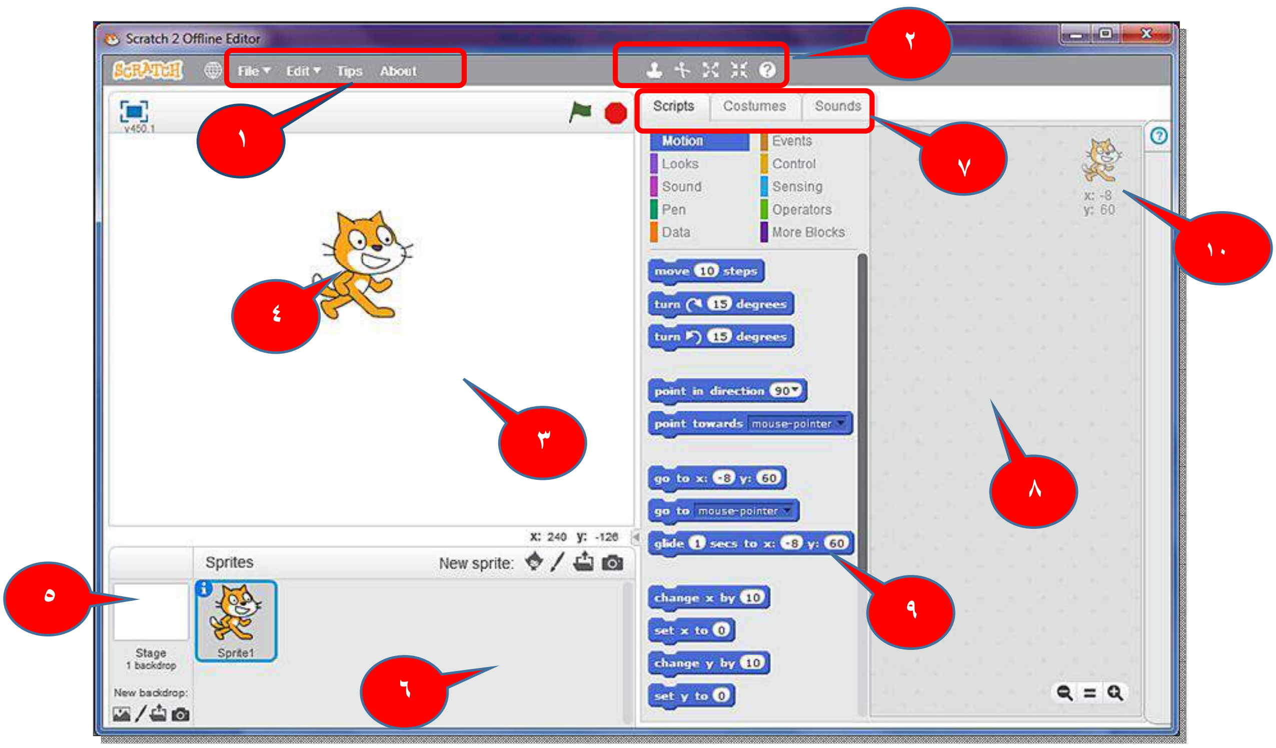
Is the set of commands that are installed in a particular Script area (as game Puzzles).



Questions & Exercises

First question: Complete the follow

Scratch interface component



1- ---------------------------------
2- ---------------------------------
3- ---------------------------------
4- ---------------------------------
5- ---------------------------------
6- ---------------------------------
7- ---------------------------------
8- ---------------------------------
9- ---------------------------------
10- -------------------------------

Secondly: change interface language to Arabic language – write the steps

1- ---------------------------------
2- ---------------------------------
3- ---------------------------------



Question for the next lesson:

You can run the blocks inside a specified number of times using Repeat and Forever blocks.

How can you repeat running of blocks inside?

The second topic

Using Control (repeat) and Motion blocks

Objectives

By the end of this topic, students will be able to :

- Use duplicate commands Repeat & Control Group forever.
- Save the project.
- Use a toolbar control.
- Add a New Sprite.
- Identify programmatic section employs in the region of Script programming Area.
- Press key events used in the production of an educational project.
- Participate in producing educational project colleagues.

Repetition Commands Block In the Code Blocks

Dear student , you identified in the previous lesson how to put movement command more than once in the code, and in this lesson we'll make a move without replacing it again (without repeating it in the code blocks)

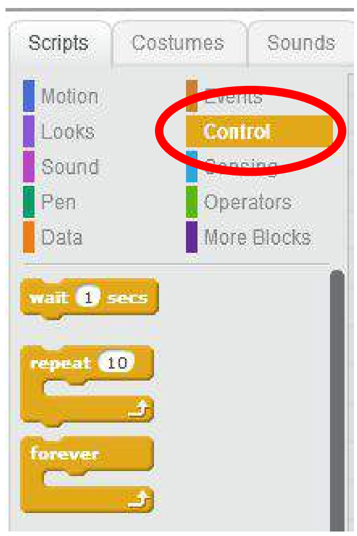
Activity (1)

With the help of your teacher, and cooperating with your colleagues design the project (using the previous example) to repeat a specified number of movement of the sprite on the Stage, using movement blocks and repeat blocks.

……………………………………………………………………………………………

……………………………………………………………………………………………

Dear student: You can use Control Blocks to repeat work for order or repetitions of a set of commands within the Scripts Tab. Control Blocks have duplicate commands:





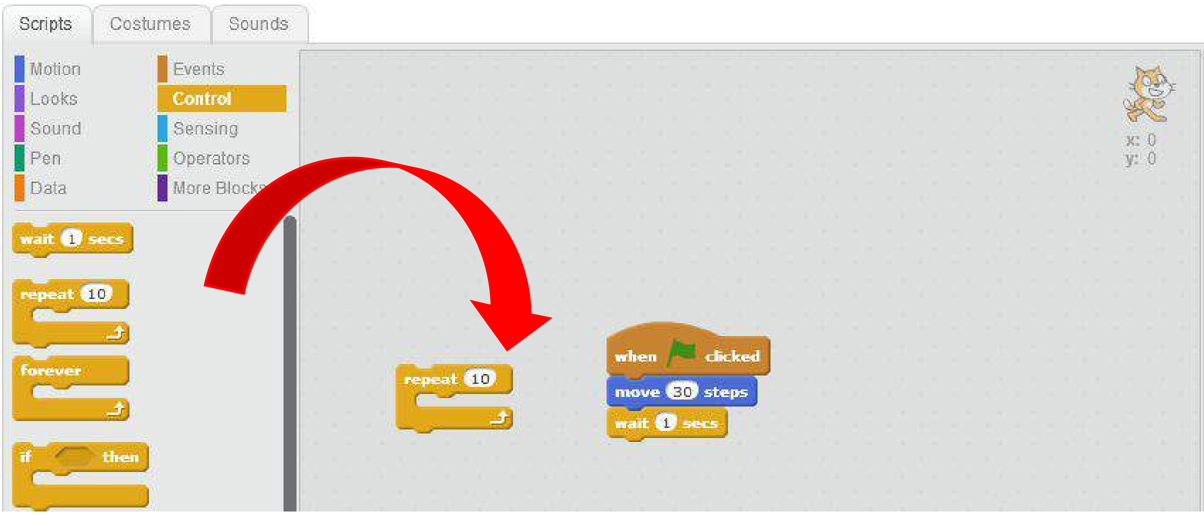
First: repetition (total) and repeat command

II: repeat (infinite times) and uses it forever

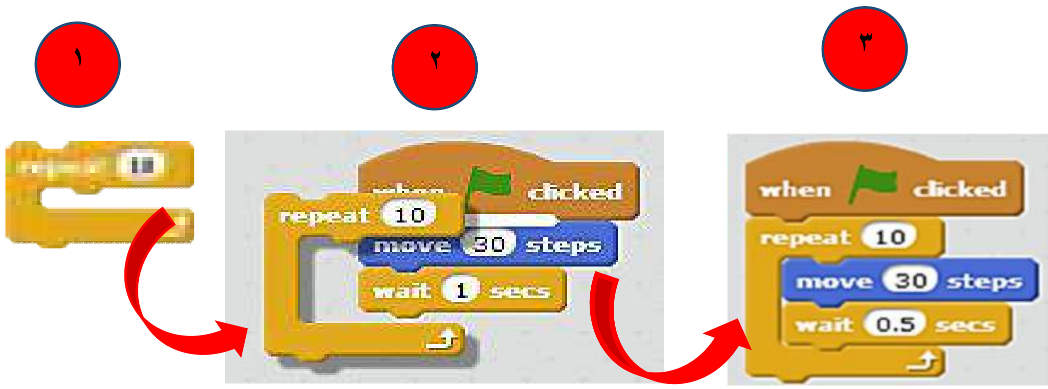
First: to design a project where continuous sprite animation a set number of times follows:

-Press Control Blocks show commands.

-drag and drop  repeat block to the Script Area as in Figure:



Set and Arrange the code blocks as follows:



-Dear student notice that you can edit:

- The value of wait Block (0.5 seconds instead of 1 second).
- The value of repeat times in repeat block

Secondly: the sprite movement can be repeated for infinite number of times:

Activity (2)

Dear student with the help of your teacher and cooperation with your colleagues ,

Use repetition (forever) 

instead of repeat (specified times) – 

record your notice……………………………………………………………………



Dear student notice that in the code blocks the sprite movement iteration infinity number

Dear student notice that in the code blocks. The movement of sprite iteration is infinity number. And to end the movement press stop button .

Save project

Activity (3)

Dear student with the help of your teacher and cooperating with your colleagues How to save the last project "sprite movement"

………………………………………………………………………………………

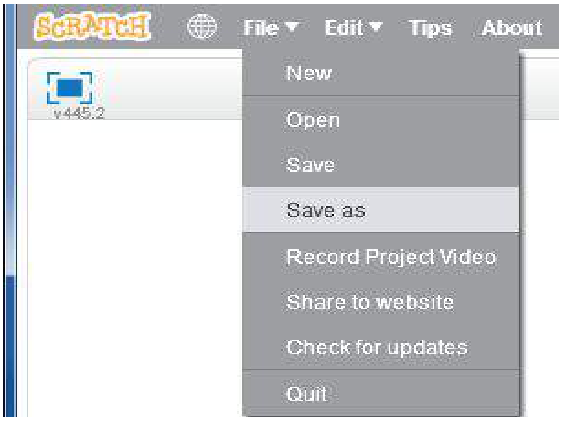
………………………………………………………………………………………

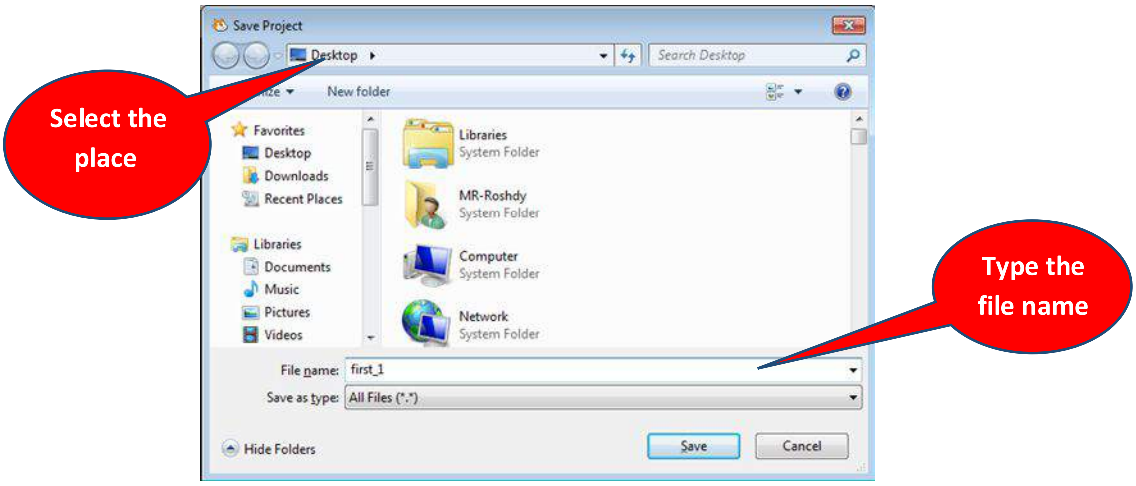
<u>Dear student to save the project</u> do the following:

1- From file menu select save as

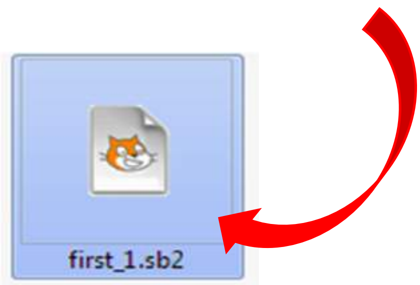
2- Select the storage place

3- Type the file name





Note that the file name extension takes .sb2



Different ways to add new sprites

Activity (4)

Dear student with the help of your teacher and cooperation with your colleagues ,

Discuss different ways to add New Sprite.

…………………………………………………………………………………………

…………………………………………………………………………………………

- dear student There are different ways you can use to add a new sprite as follows:

1. Add a Sprite from the Sprite library.
2. draw the Sprite on the painter (Scratch software).
3. Loading a sprite from a file stored on any storage medium.
4. take a picture of the Sprite by using your webcam.

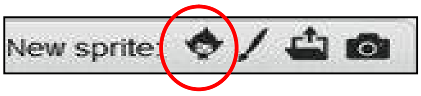


Add New Sprite

Activity (5)

Dear student: Cooperating with your classmates and with the help of your teacher

:Add new sprite from sprite library

(scratch program) by using tool bar in 

sprite area

……………………………………………………………………………………………

……………………………………………………………………………………………

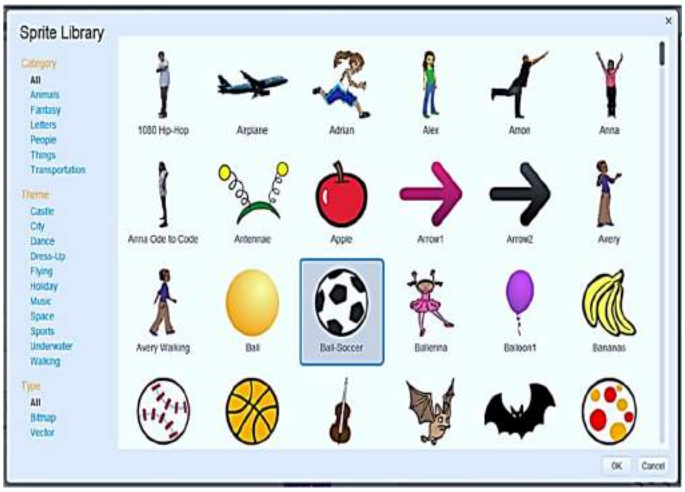
Dear student so you can add a new sprite from Scratch program sprite library, follow these steps:

-Click on the  shape toolbar add sprite.

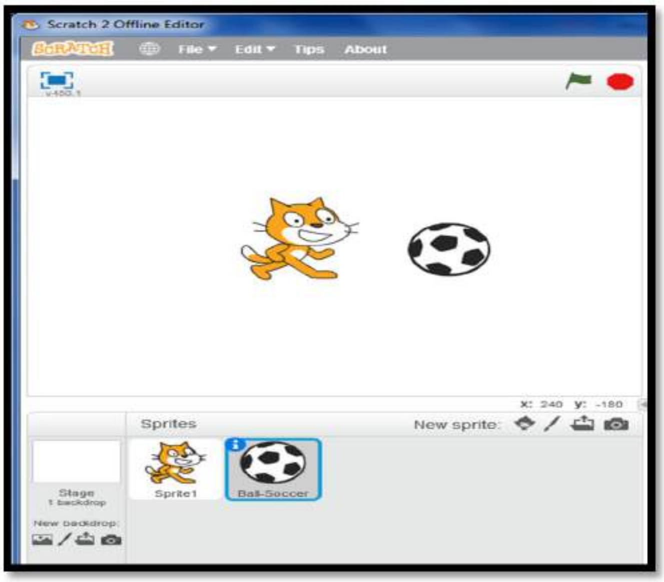
Sprite library window appears where large groups of sprites are divided into different categories such as: categories (Animals and People…) as follows:

-Select a sprite (ball).

-Press the OK key.



Note: the sprite has been added (the ball) on the Stage, and also in the sprites Panel area was added by other sprites as follows:



Dealing with files in scratch program

Dear student you can handle files with Scratch program by creating a new file or open a previously saved file for modification.

Activity (6)

Dear student: Cooperating with your classmates and with the help of the teacher: discuss how you can .

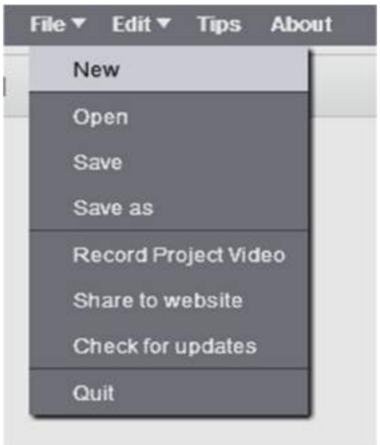
-create new file

-open existing file

Dear student so you can work with files in the Scratch program to create a new project file or open a previously saved project file use menu as follows:–

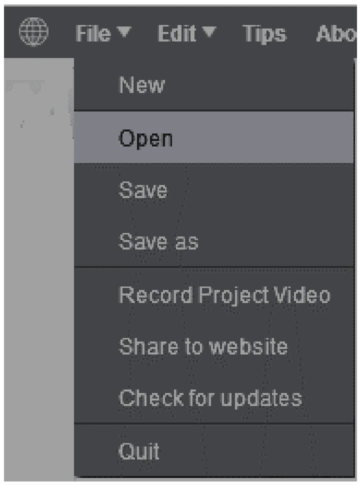
Create new file

Select:File → New



Open an existing file

Select:File → Open



Dealing with sprite on stage

Activity (7)

Dear student: Cooperating with your classmates and with the help of the teacher:

Identify control toolbar choices, how do you control the sprite on the stage?



....

....

Dear student you can handle and control sprites on the stage (maximize, minimize, etc.) using the control toolbar choices.

The following table shows the effect of each icon on the sprites on the stage:



s	١	٢	٣	٤	٥
icon					
function	minimize	maximize	duplicate	delete	help

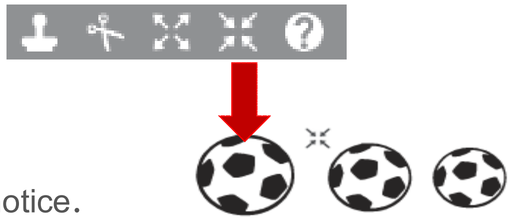
Activity (8)

Dear student: Cooperating with your classmates and with the help of the teacher:Use the various choices to control toolbar so that you can handle sprite (ball).

……………………………………………………………………………………………

……………………………………………………………………………………………

-Dear student to handle sprite (ball) in terms of:



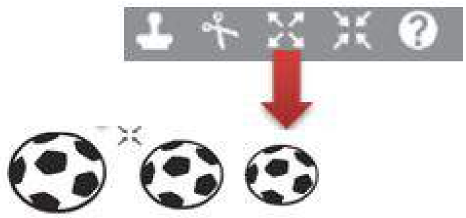
First, reduce the size of the sprite:

-Click on icon

-Click on ansprite ball several times .record your notice.

……………………………………………

Second : enlarge the size of the sprite:



-Click on icon.

-Click on sprite ball several times record your notice.

Thirdly : doubling the number of sprite (ball):

-Click on icon.

-Record your note:

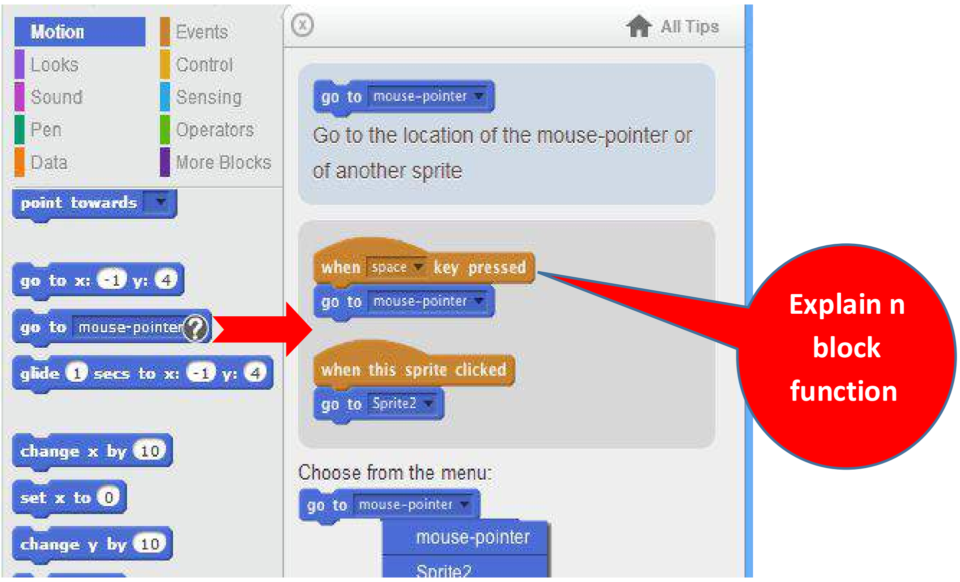
………………………………………

-Note that you can press the Shift key on the keyboard with any icon from the

toolbar control for continued active icon effect without pressing it again.

Fourth: using the help:

-Use the icon to help explain any command block, as in the figure.



Use drop-down menu with sprite

Activity (9)

Dear student: Cooperating with your classmates and with the help of the teacher: identify how to double the number of sprite using the drop-down list of a sprite?

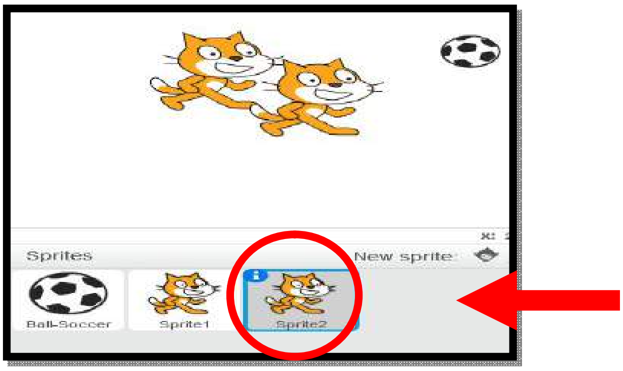
....

....

-Dear student ever made using the control toolbar icon selection for doubling the number of sprite, you can also use the drop-down menu choices to double its sprite as follows:

- Click the right mouse key on the sprite (cat).
- choose Duplicate from the drop-down list.





-Note is doubling the number of sprite on Catwalk Stage)) and also in part plate Sprites

Delete sprite

Activity (10)

Dear student: Cooperating with your classmates and with the help of the teacher:How to delete Sprite1 by using the sprite dropdown list.

....

....

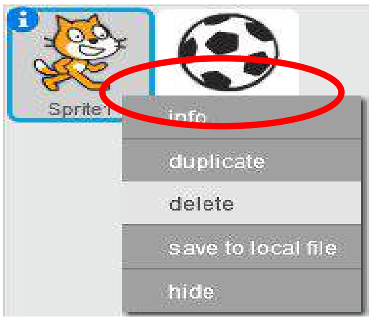
....

Dear student so you can delete any sprite in sprite area follow:

-Activate the sprite you want to delete (by select).

-Press the right mouse key.

-Select delete from the drop-down list.



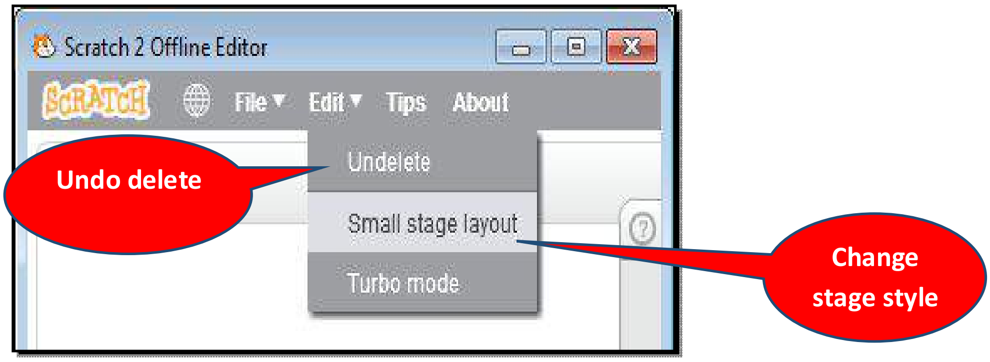
-notes

Delete the sprite from the sprite area , it is also deleted from the stage .

Dear student :Note using the Edit menu from menu bar of the program you can:

-Undo Delete sprite choose Undelete.

-To change the style of the Stage during design (a small stage layout) choose Small Stage Layout.



Dealing with code blocks

Activity (11)

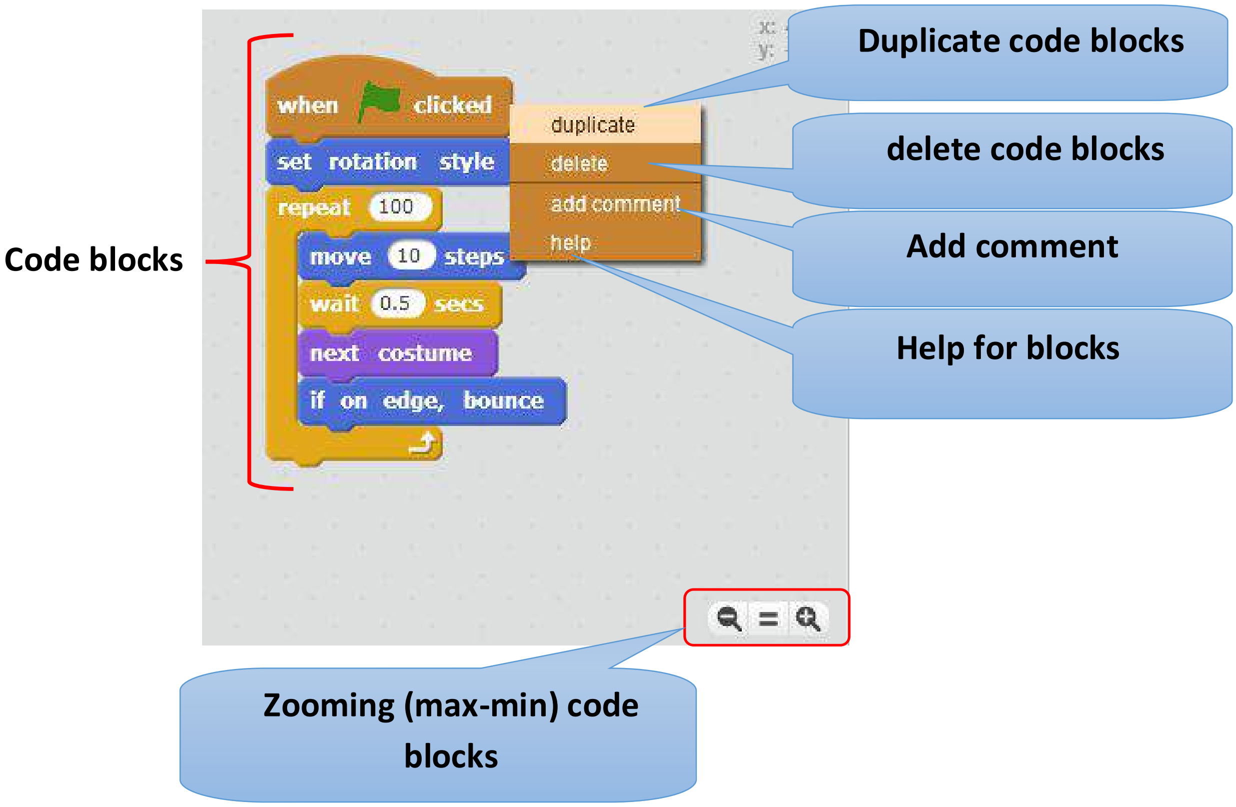
Dear student: Cooperating with your classmates and with the help of the teacher: Discuss the various choices for code blocks drop down list in script Area.

……………………………………………………………………………………………

……………………………………………………………………………………………

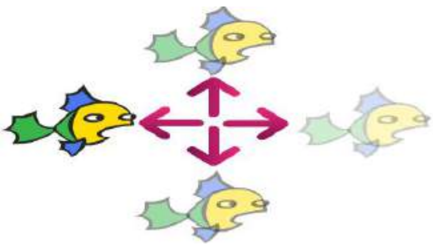
Dear student in the previous lesson introduced the concept of code blocks (a block being installed Script Area in a particular order (as fitted Puzzles game)), in order to be able to deal with code blocks, do the following:

–press right mouse key to show the menu and contains several choices as follows:


Code blocks
when clicked
set rotation style
repeat 100
move 10 steps
wait 0.5 secs
next costume
if on edge, bounce
duplicate
delete
add comment
help
Duplicate code blocks
delete code blocks
Add comment
Help for blocks
Zooming (max-min) code blocks

Activity (12)

Dear student: Cooperating with your classmates and with the help of the teacher: design a project which uses some events from the Event Group to control the movement of a sprite (fish) as follows

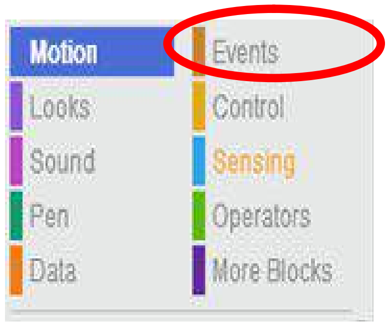


Using the arrow keys↑→↓← keyboard (hire stock keyboard to control sprite

....

....

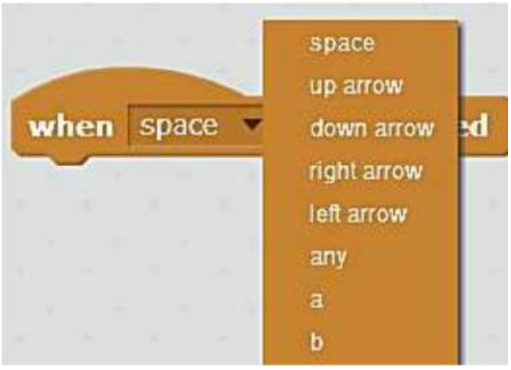
Dear student so she can control the movement directions sprite (fish) on the stage by using the keyboard arrows (such as computer games) do the following:



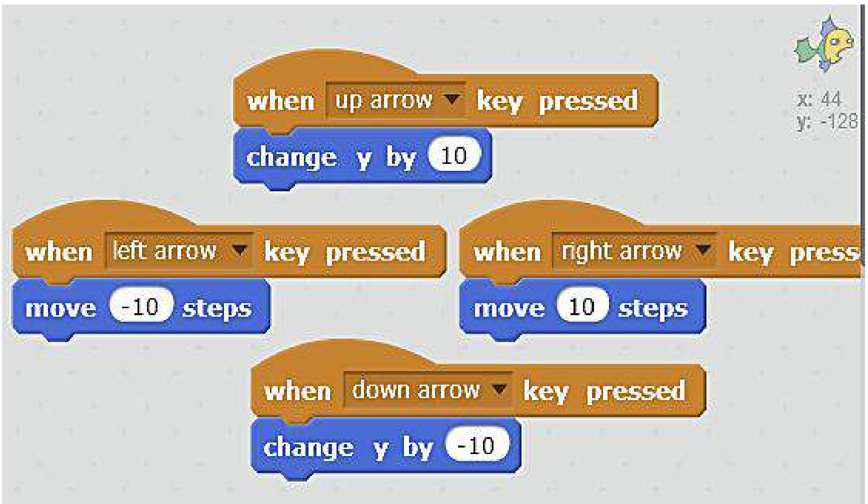
Add sprite (fish) from the sprite library.

- –Choose the 

event from “Events Blocks.”
- This event is when you press a key (...........)
- –Click on the arrow menu of choices.
- –Drop–down list appears that contains choices for events (associated with keyboard buttons occur when pressed).



- fixing the code blocks as follows:



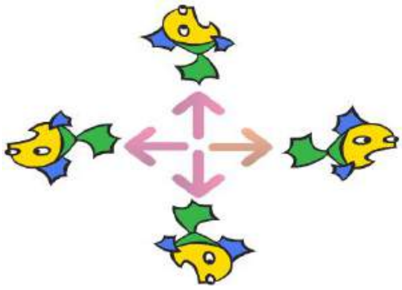
Note:

–The project is executed when you press one of the arrow keys on your keyboard.

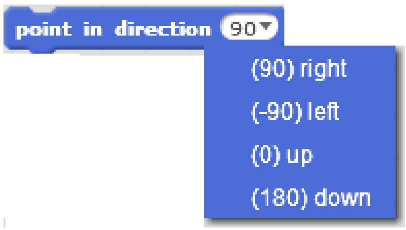
–Notice the movement of the sprite(fish) in the direction of the arrow without modifying the direction.

Activity (13)

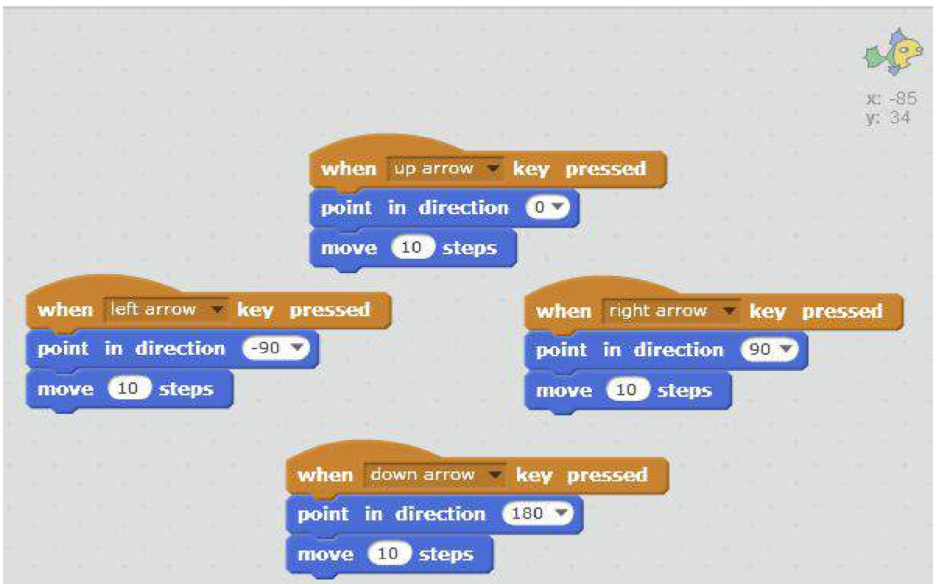
Dear student: Cooperating with your classmates and with the help of the teacher: Discussed in the previous project how to change the orientation of an sprite(fish) using the keyboard arrows→↓↑← keyboard as a shape..



Dear student so you can change the orientation of a sprite(fish) on the Stage



By fixing code blocks using events



Remember

Duplicate commands Repeat Blocks:

-Repeat to repeat work specified number of times.

-Forever is used to make repeat infinite times.

To insert New sprite there is more than one way:

1. Select from the library (Library program).
2. paint the sprite
3. upload the image or sprite
4. take a picture from webcam

dealing with files:

Save file – new file – open a file – video action

Use the pointer toolbar:

Post all theicon as follows in the table below.

s	١	٢	٣	٤	٥
icon					
function	minimize	maximize	duplicate	delete	help

QUESTIONS AND EXERCISES



Question 1: Complete the following :

Explain the function of each of the following forms in the pointer toolbar and its impact on the sprite:

task	icon
------------------------------	
------------------------------	
------------------------------	
------------------------------	
------------------------------	

Second question: explain the difference between repetition commands:

	
____________________________ ____________________________ ____________________________	____________________________ ____________________________ ____________________________

Third question: broad with explain steps insert new sprite in the Scratch program

:...

....

....



Question for the next lesson:

Use the Costumes tab to change the Costume for the current Sprite.

How do you deal with the Costumes of different sprites?

The third topic
Dealing with Stage Background and Sprites Costumes

Objective

At the end of this topic the student is expected to be able to:

- Change stage Backdrop.
- Controls the various (Costumes) to Sprites.
- Employ the appearance Looks legitimate production orders.
- Collaborates with colleagues in the production of an educational project.
- Deduce new project ideas.

Tabs bar



Activity (1)

Dear student teacher assistance and collaboration with your colleagues you know on your tab bar tabs and Costumes of Sprites and the background stage(Costumes or Backdrop).

....

....

Bar tabs: 

There is a Scratch program interface tabs bar, is one of the most important parts in the program where you can deal with:

–Tab: Scripts (dealing with code blocks and script area section orders).

– Sound tab:) handle playback and recording sounds).

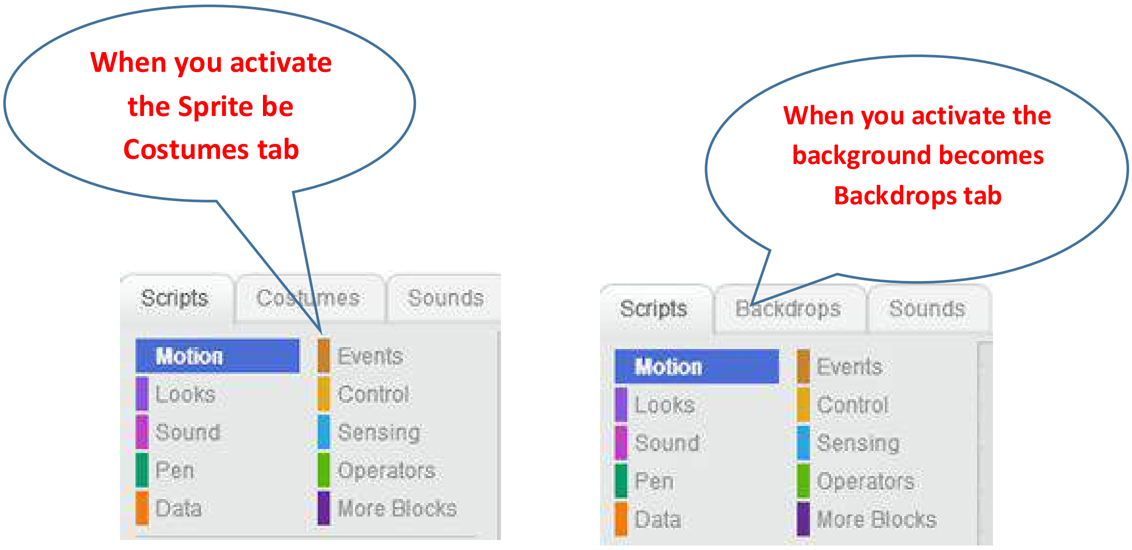
– tab) Costumes/or Backdrop): (dealing with aspects of Sprites/or background stage) and adjustment.

Dear student remark in tab (Costumes or Backdrop):



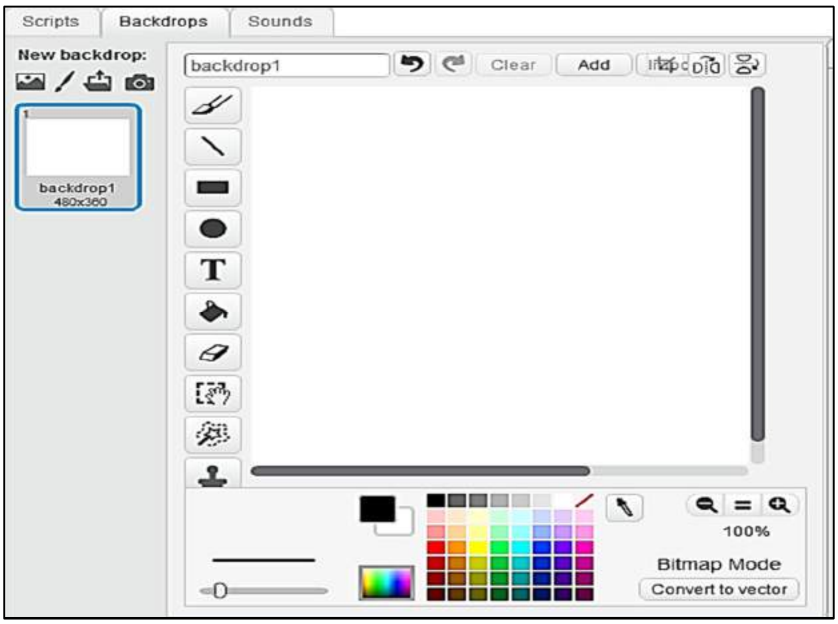
First: when you activate the Sprite tab appears (Costumes).

Second: when you activate the background Stage catwalk shows tab (Backdrops) instead of (Costumes) as follows:



Note that:

-When you press tab in both cases Costumes you can use drawing tools and colors available and drawing as follows:



Dealing with Stage Backdrop

Background of the Stage:

Is the image covering (or add) the Stage, be behind Sprites to add to the project aesthetic form.

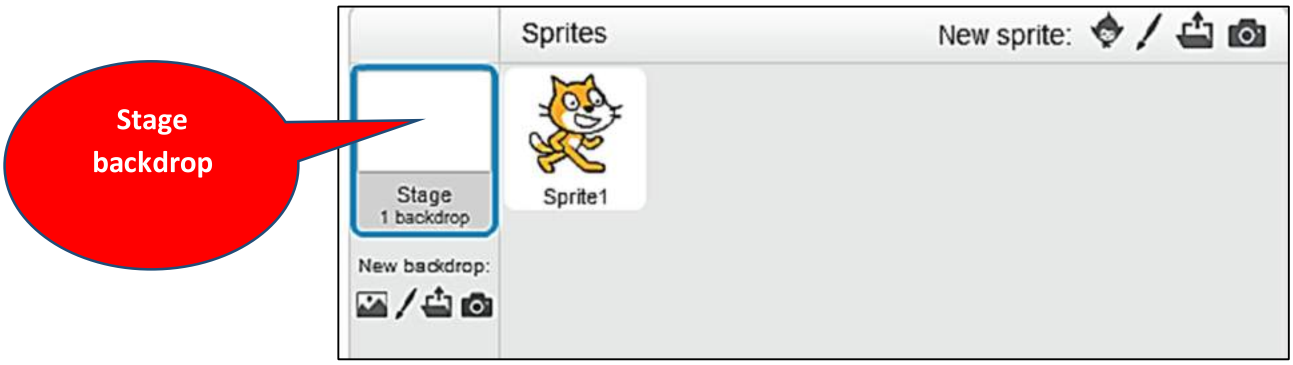
Activity (2)

Dear student teacher assistance and collaboration with colleagues discussed the deal backdrop Stage.

……

……

-Dear student you can deal with the background of the rostrum of their part Stage backdrop as follows:



Different ways to add a background "Stage Backdrop"

Activity (3)

With the help of your teacher and cooperating with your colleagues

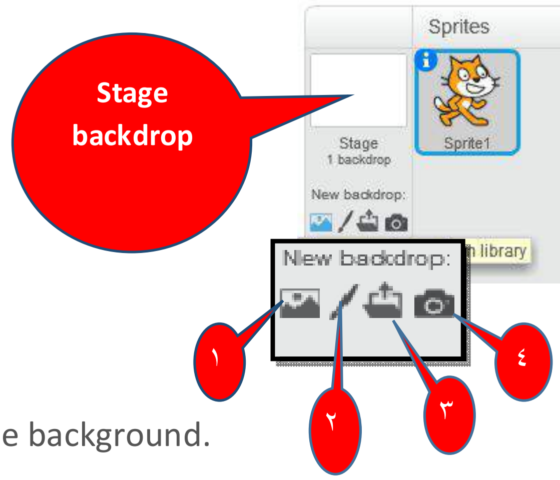
Discuss different ways to choose a background catwalk Stage, record your feedback.

....

....

Dear student you can choose a photo as the background of the Stage for your project, which is implemented or interactive story that will design, and through the "New backdrop". of the following ways:

1. choose wallpaper from the library program.
2. draw a new background using the paint That program.
3. upload a background image from a file Storage medium.
4. using the camera in the camera image for the background.



Add a background to the Stage Backdrop

Activity (4)

With the help of your teacher and cooperating with your colleagues

Learn how to add a background to the stage using New backdrop background library through the program.

....

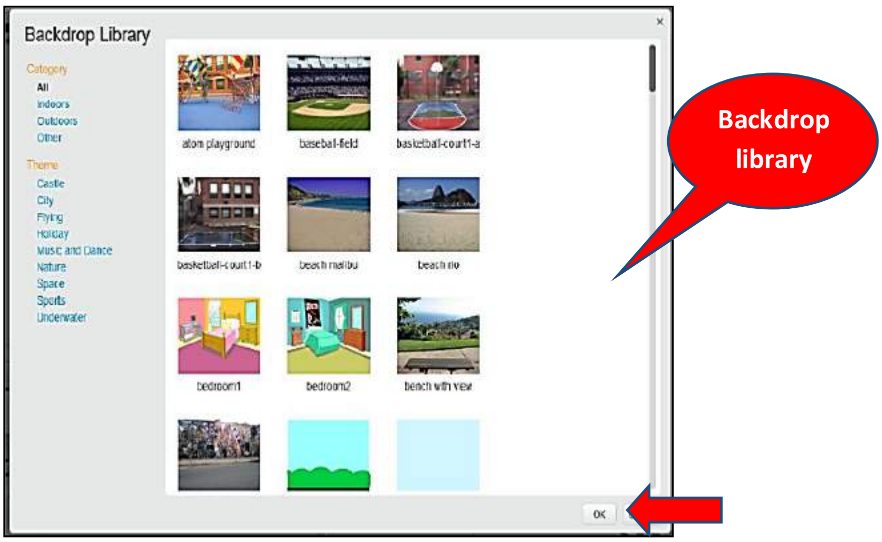
Dear student to be able to add a background to the stage to fit your project, do the following:

-Click on icon.

-Show Backdrop backgrounds library window Library with many pictures is placed as backgrounds for the stage.

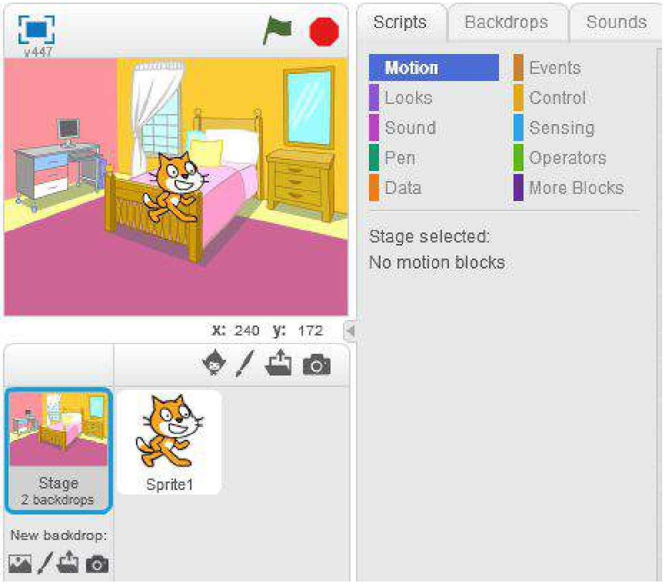
-Choose an appropriate image for the project.

-Press OK record notice



-Note to add a background to the Stage is the picture that has been selected as the format:

Add stage background



First: the Backdrop tab from bar tabs

Activity (5)

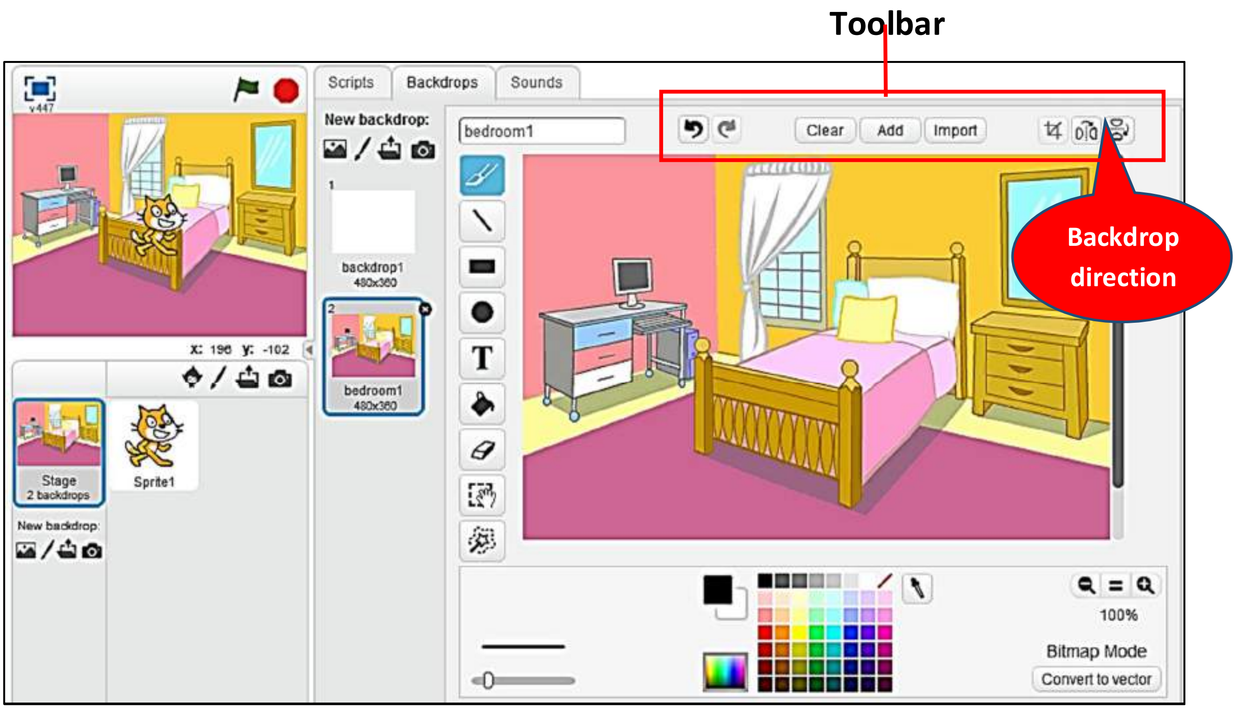
With the help of your teacher and cooperating with your colleagues

From the tabs bar-use the toolbar to modify the background picture.

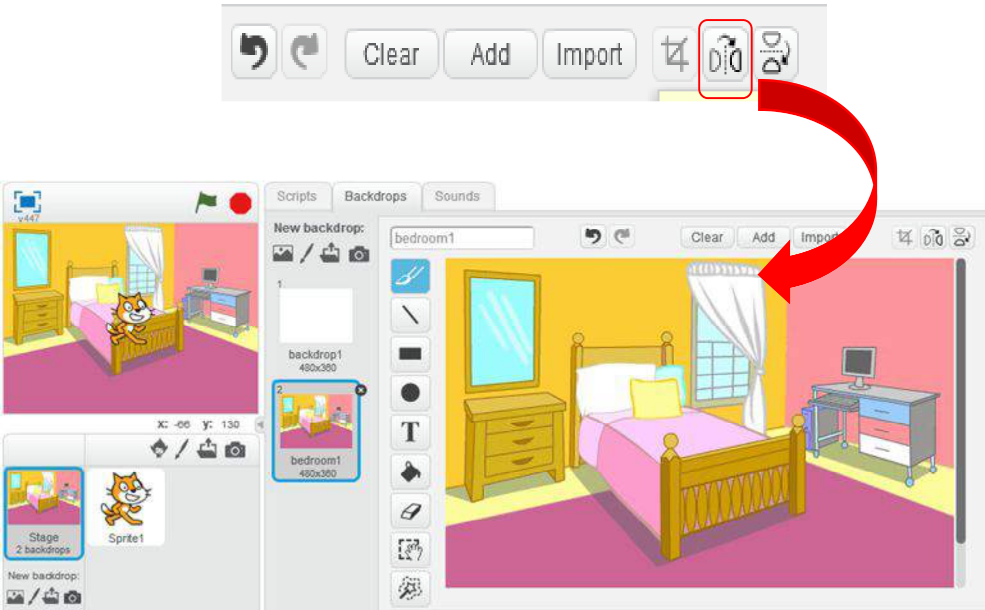
....

....

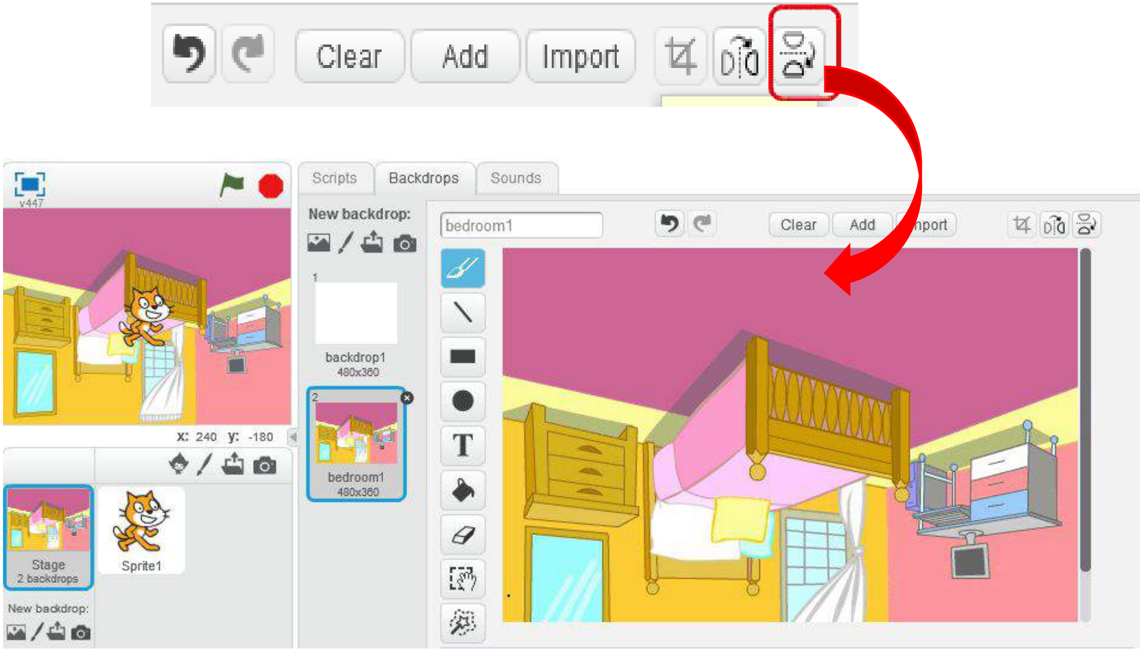
- Dear student when you activate background stage . Backdrops tab appears, and when pressed you can use drawing tools and colors available for modification and graphic in the background of the stage as follows:



When you press the flip right left selection (edit toolbar) reflected the background image horizontally like a mirror as follows:

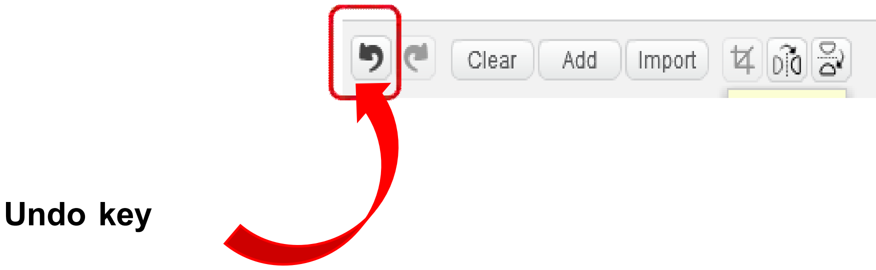


- When you press the flip down up check the background image is reflected vertically, as in the following figure:



Note:

Dear student to undo one of the choices, you can press undo as form:



Second: costume tab

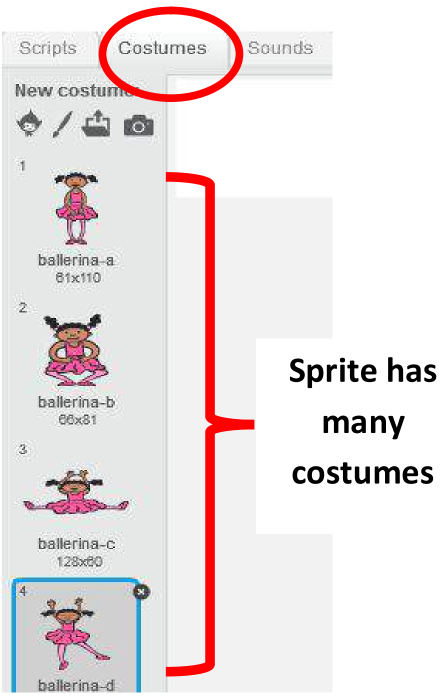
Activity (6)

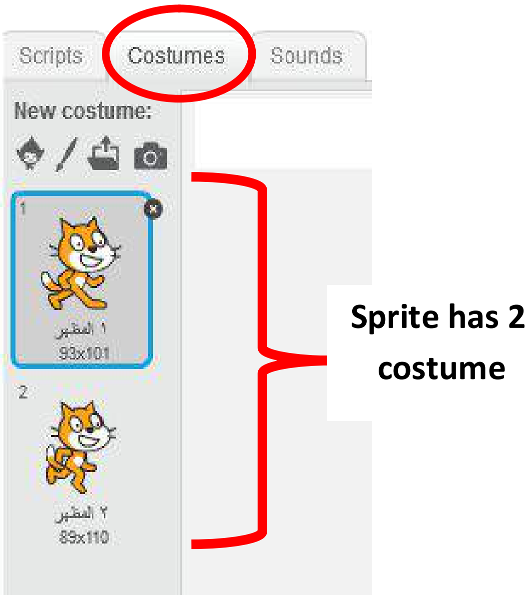
With the help of your teacher and cooperating with your colleagues

Learn about Costumes tab from the tab bar.

……………………………………………………………………………………………

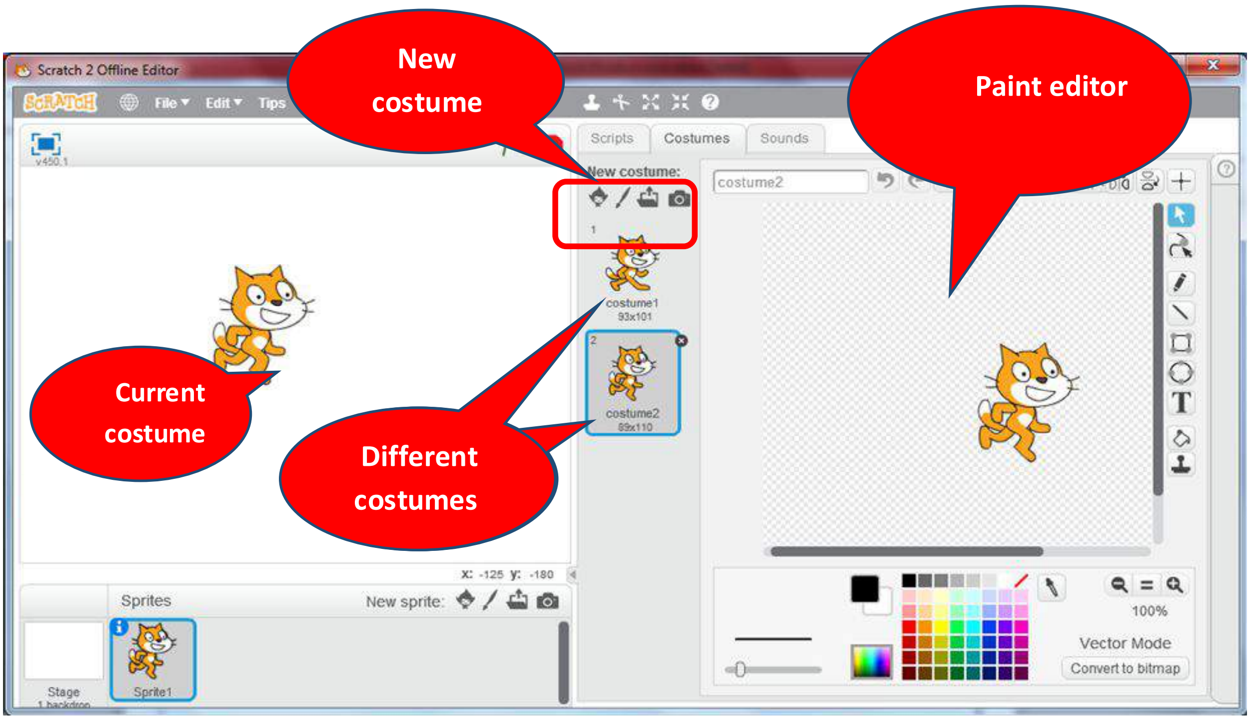
Dear student appearances intended Sprites are different forms of the same Sprite, you can identify the aspects of the active Sprite when pressing tab Costumes, so that each Sprite can have more than one form as follows:





Dear student to review the forms of appearance of the Sprite follow the following steps:

1. active Sprite in the Sprites area.
2. click on the tab for the Costumes in bar tabs, note showing different forms of the same sprite.
3. you can edit the appearance of the sprite by using drawing tools and colors.
4. use painting tools and colors to modify the appearance of the sprite.

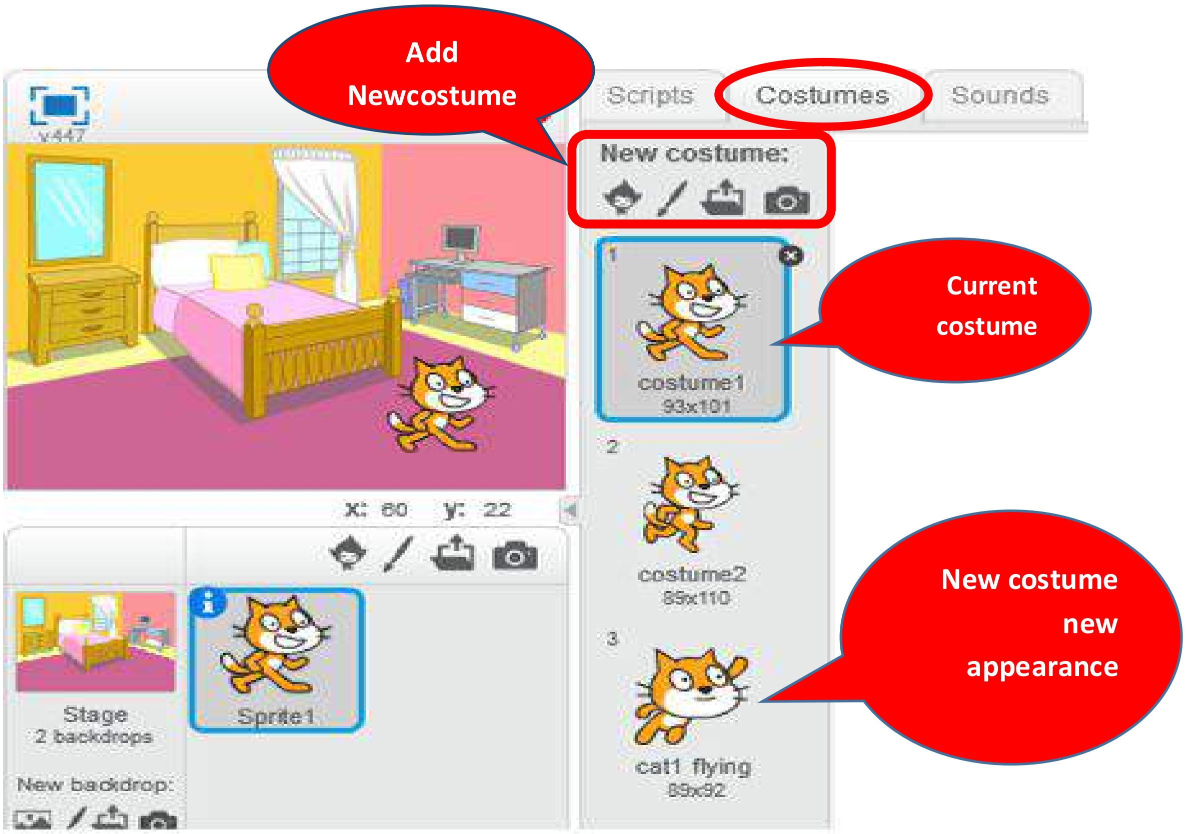


Note dear student you can:

1. Use the toolbar to manipulate the sprite as described in modify the background of the stage.



1. Add the appearance of the sprite forms of different sprites on the form sprite itself, as in the following figure:



Activity (7)

With the help of your teacher and cooperating with your colleagues

Discuss how to switch between different forms of the same sprite.

……

……

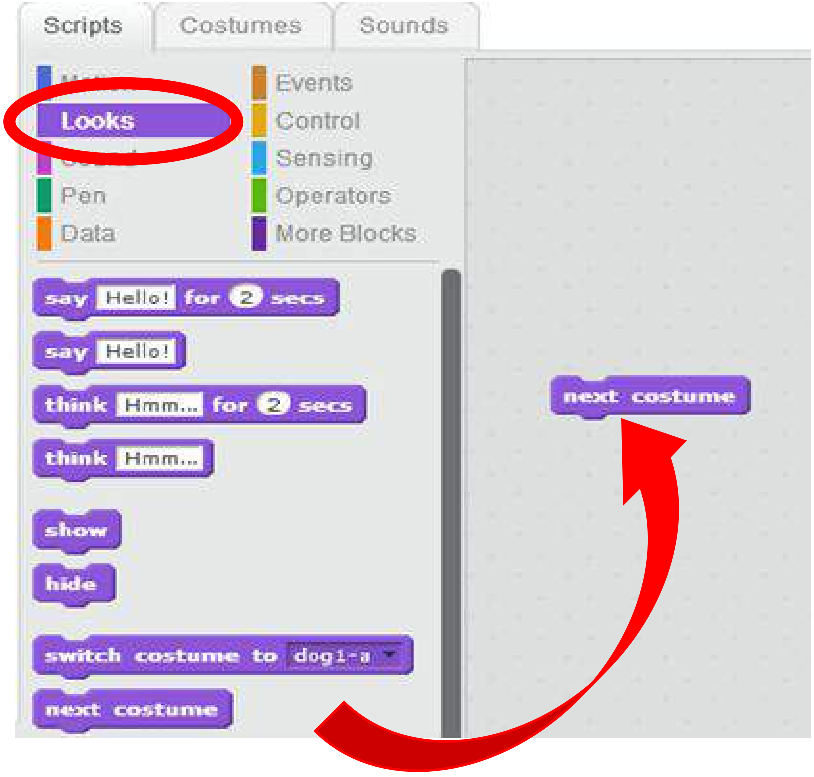
……

Dear student you can switch between the different forms of the sprite by using the **next costume** command from the Group looks by following:

1. click and drag the command **next costume** and throw him in the area of programming Script Area.

2. click on it in the script area .

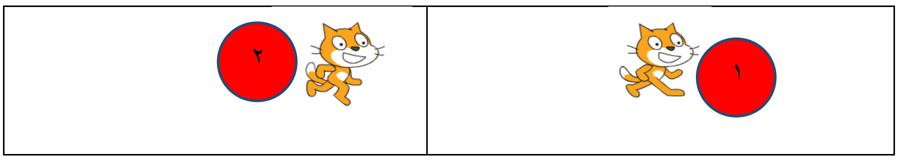
3. press more than once, what do you notice?



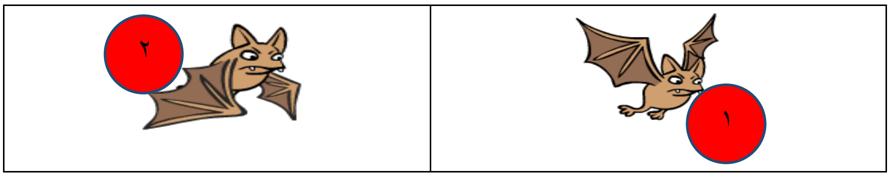
Dear student appearances of different sprite format switch noted, suggesting to you that the sprite is moving in the same place.

Examples of appearances (different shapes) for some sprites as follows:

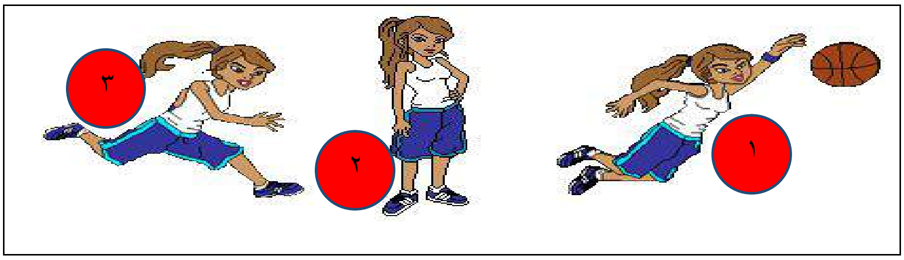
1. Switch between costumes of Sprite (cat):



2. switch between costumes of Sprite (bat):



3. switch between costumes of Sprite (player):



Notes:

-When applying Costume Next command you see different looks for each sprite.

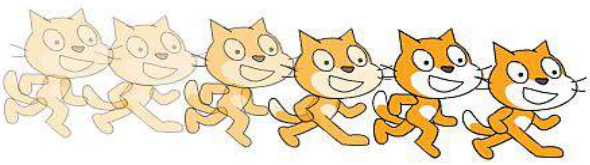
-To show the movement of the sprite in its various appearances you can put it inside repeating orders.

Activity (8)

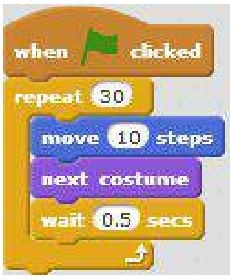
With the help of your teacher and cooperating with your colleagues

Design: a project to move a sprite on the stage and switch between various appearances

....



Dear student to illustrate switch different appearances of the same sprite with his movement on stage, install and arrange the commands in the following code:

Code blocks / scripts	Description	notes
	1. Movement (10 steps). 2. Switch between costumes of the sprite. 3. Wait a time package (0.5 seconds). 4. Put the previous commands within a specific repeat (30 times).	• Press on the icon to execute commands • repeat value (100 times) • Record your notes.

Copy the code blocks from one sprite to another

Activity (9)

With the help of your teacher and cooperating with your colleagues:

Add a new sprite, and show different costume of the sprite as in Figure:



Use the constant repetition forever rather than repeat order.

- Use the  icons to turn on and off the program:

……

……

Dear student to use the same code blocks of the project with some commands do the following:

- Add new sprite (as required) to the sprites area.
- Ever did code blocks of the movement sprite (cat) to switch between different looks you can save time installing same code blocks, copy it to a new sprite the following

- Click and drag the code blocks (cat) in the script area and throw him on the new sprite in sprite area As Figure



- Note that show the code blocks in the script area for the new sprite.



- Replace the forever command instead of repeat in the code blocks
- Press on the icon to  start the program.
- Press on the icon  to stop the program.

Dear student note that:

When applying project find that sprite reaches the edge of the Stage and continues moving off the stage.
!!!!

The bounce commands and change the style sprite orientation

Activity (10)

With the help of your teacher and cooperating with your colleagues

Discussed: the solution in how not to exit the sprite
from the stage.

....

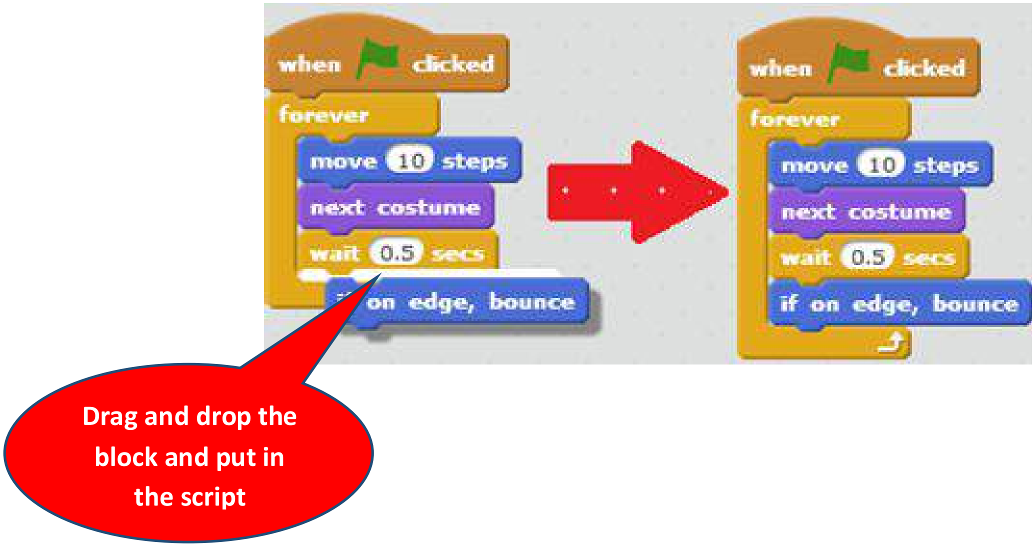
....

Dear student for lack of the sprite from the stage and make it backfires when the edge of the stage.

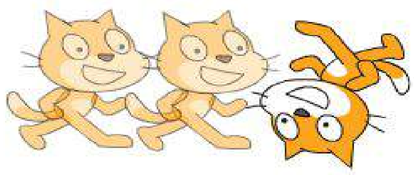
Use the `if on edge, bounce` block of Motion Blocks and do the following:

- Copy code blocks to sprite (cat) as follows:
- When performing project observed sprite exit the Stage.
- Add it `if on edge, bounce` as:

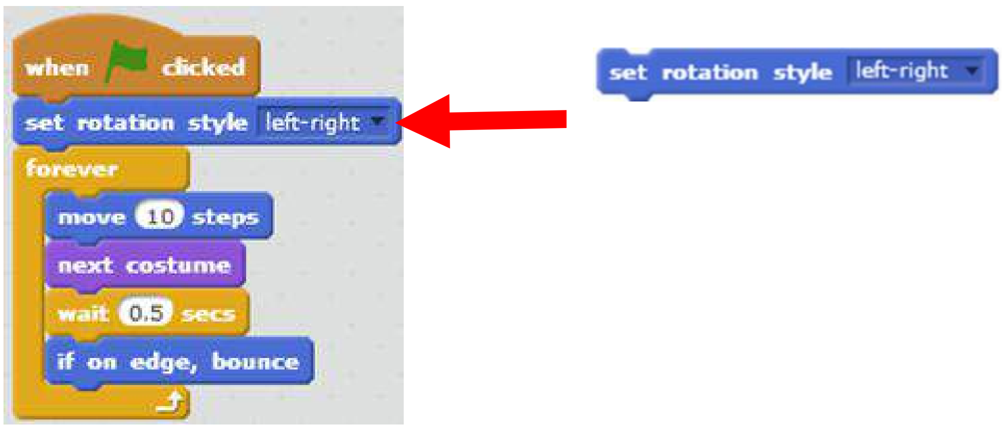




Dear student note that when implementing code blocks after you add the bounce command, flops when the sprite reaches the edge of the stage but inverted orientation (vertical) as follows:

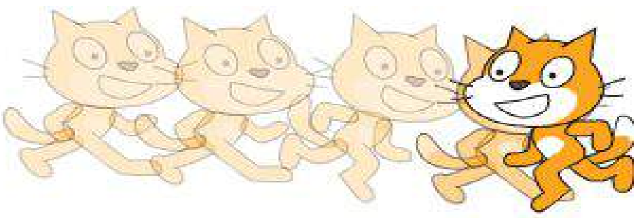


- To resolve this problem, add the command as follows:



Dear student note that:

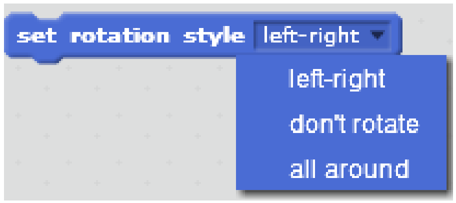
Bounce back sprite to the stage in the right direction as follows:



Is placed outside the iteration order forever.



- Discuss with your teacher the various choices.

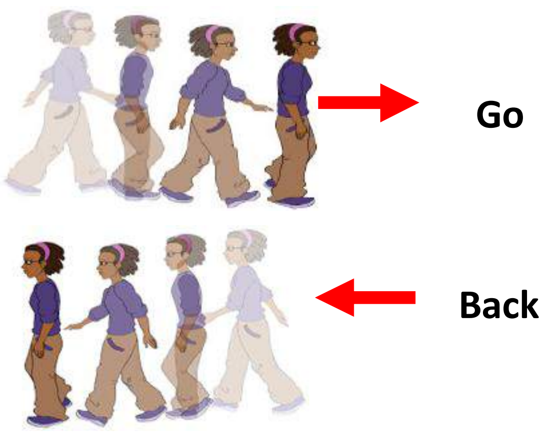


Activity (11)

With the help of your teacher and cooperating with your colleagues, Do the project add an sprite moving on the stage go and back as in Figure

....

....




Sprites
New sprite:
Sprite1
Avery Wa...
when clicked
set rotation style left-right
forever
move 10 steps
next costume
wait 0.5 secs
if on edge, bounce

-run project  .

Looks Blocks

Command	The result	description
say Hello! for 2 secs		A message appears (2 seconds) and then disappears.
say Hello!		A message does not disappear.
think Hmm... for 2 secs		A message appears, but in the form of "thought" style (2 seconds) and then disappear.
show		Active sprite appears on the Stage.
hide		Active sprite disappears from the Stage
change color effect by 25		Color and style effects on the sprite
clear graphic effects		Delete any effects on the active sprite.

Activity (12)

With the help of your teacher and cooperating with your colleagues, Design the project to show "text dialogue" between two sprites (two), using various messaging commands, record your feedback.

………

………



Various effects (colors and styles) for sprites

Activity (13)

With the help of your teacher and cooperating with your colleagues

Discuss the various choices (color-patterns) of a sprite by using a command, record your feedback.



....

....

Dear student intended effects (colors and patterns) of a sprite that you can do the following:

1. Change colors of sprites.

2. Change in the pattern of the shape sprite.



-To make a change (colors and styles) of the sprite, click on the dropdown menus



Activity (14)

With the help of your teacher and cooperating with your colleagues

Use the command to change the pattern of impacts form sprite and modify the values of the
effect

....

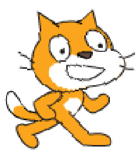
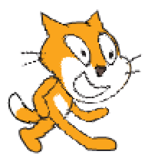
....

- Dear student when choosing the style, whirl

You can change the values of the effect of this pat



-Note the effect of sprite shape patterns as shown in the following table:

Select whirl 	Change value to (-60)	Change value to (75)	clear effects 
 **(25) The style value**	 **(-60)**The style value	 The style **(75)**value	 Sprite without effects

Activity (15)

With the help of your teacher and cooperating with your colleagues Discuses: sprite format styles to choose (fisheye), record notes..



Dear student:

You can use the command to 

delete any effects (color or styles) has been changed or added in the shape of the sprite.

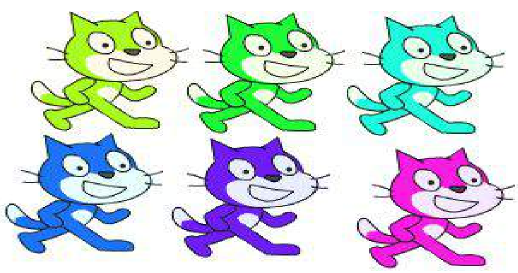
Activity (16)

With the help of your teacher and cooperating with your colleagues

Make a project using command sprite to change colors and effects that each time period (1 second), the program stops when you press "SPACEBAR" keyboard.

....

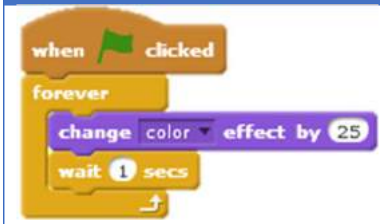
....



-Dear student, to work on the sprite color effects do the following:

-Use block. 

-Install the following commands:

Code blocks	description	notes
	1. use color change command sprite using the value effect (25). 2. using the wait (1 second). 3. previous orders placed inside is repeated endlessly. 4. run the program icon	Program execution continues an infinite number of times

-To stop the program when you press the "ruler of the program" we use event

Event Blocks of install the following commands: 

Code blocks	description
	1. using a command when you press the key "ruler". 2. use the stop command.

Activity (17)

With the help of your teacher and cooperating with your colleagues Discuss other choices to Stop command to stop the program as form and notes:



....

....

remember

Looks Blocks

command	description
next costume	Next costume
say Hello! for 2 secs	A message appears for two seconds.
say Hello!	Fixed message appears.
think Hmm... for 2 secs	A message appears differently "meaning thinking."
show	Control the appearance of the sprite.
hide	Control the hide sprite from the stage.
change color effect by 25	Change the color to a certain degree.
clear graphic effects	Deletes any changes on the sprite.

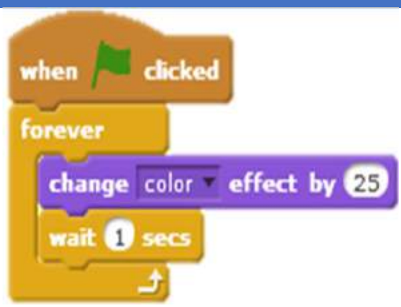
Questions and Exercises



First question: tick (√) in front of the correct term and sign (×) in front of the wrong term:

1. you can put a picture of the background file for the stage.
2. There are multiple aspects to all sprites.
3. arrange the commands do not affect the outcome of execution in a program.
4. you cannot control the direction of rotation of the sprite during design.

Second question: explain the result of the application of the group code straggling to any sprite:

Code blocks	function
	------------------- ------------------- -------------------

Question 3 complete as follows:

Block / command	function
say [Hello!] for (2) secs	--------------
say [Hello!]	--------------
show	--------------
hide	--------------
clear graphic effects	--------------



Question for the next lesson:

Pen commands used Blocks to draw different shapes with different colors.

How can you employ the pen work orders forms in different colors?

The fourth topic

Pen and Audio play blocks

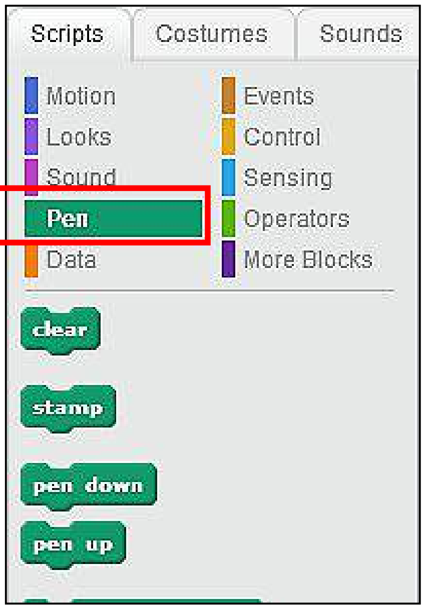
Objective

At the end of this topic the student is expected to be able to:

- **Uses Pen orders Blocks.**
- **Customize a color for drawing.**
- **Draw geometric shapes with the pen orders.**
- **Infer how to design new geometric shapes.**
- **Adds voice command Sound Blocks into code sections.**
- **Deals with audio and voice recording.**
- **Uses various events Event commands.**
- **Compare various Events.**

Pen Blocks

Dear student Pen Blocks of orders are important orders in educational projects, it makes the sprite draws lines and painted during his movement, and you can use them in drawing different geometric forms easily.



Activity (1)

With the help of your teacher and cooperating with your colleagues,

Discuses: Pen commands to draw lines during the movement of the sprite on the Stage platform.

……

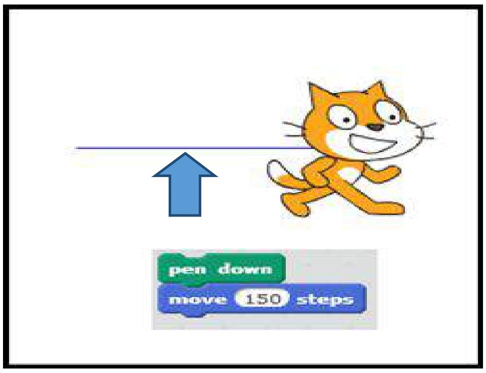
Dear student to use Pen blocks to draw lines during the movement of the sprite, colored with different colors follow:

-Choose the command. 

-Rode the command  **with changing value to (150 steps).**

-Click on the section. 

-Note: when you move the sprite with a line as in Figure:



The following table shows some Pen set commands:

blocks	Function
	Put the pen sprite movement draw a line
	Lift the pen moves the sprite without drawing
	Customize the color of the pen is selected inside the box
	Clear any lines and graphics on the stage

Set Pen Color Block

Activity (2)

With the help of your teacher and cooperating with your colleagues

Discuss how to assign the color of the pen

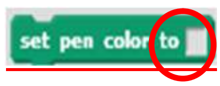
.

....

....



Dear student you can assign the pen color through the command box as follows:

Steps	Red color	Blue color
1. click inside the box with your mouse.		
2. click on any external color is right in front of you.		
3. Note the color is placed inside the box.		

Activity (3)

With the help of your teacher and cooperating with your colleagues

Try customizing pen color using the color of a sprite.

....

....

Dear student so you can use one of the following sprites:

-Add a new sprite from sprite library, choose 

– Click &Drag 

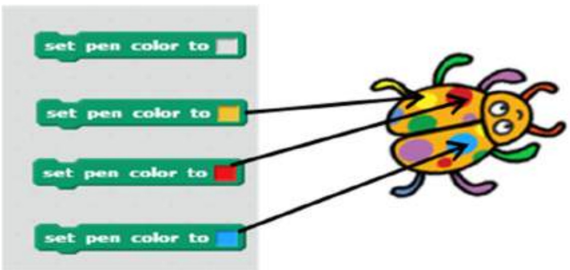
Block in script area

-Press box coloring it. 

-Choose any color spot present on the sprite and click on it (let it red).

Note: change the color of the box like shape.

-Use different colors for the sprite to change it as follows:



Pen size line drawings of Pen set

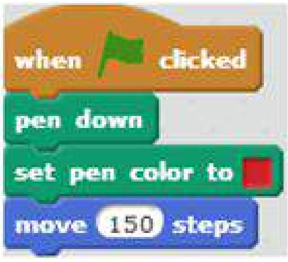
Activity (4)

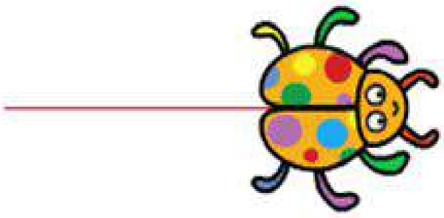
With the help of your teacher and cooperating with your colleagues

Design: a project to draw a straight line in red during the movement of the sprite on the stage with the possibility to customize the font size.

....
....

Dear student so you can draw a red line install software section the following set of commands:



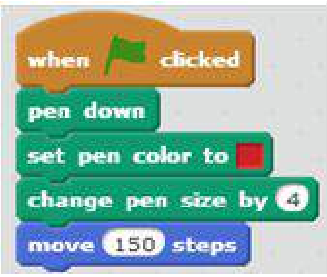


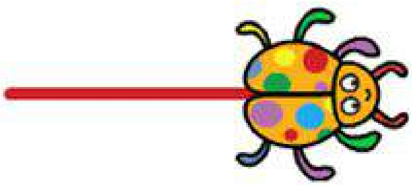
Dear student note that:

-When executing the program is drawing a straight line red during the movement of the sprite.

-So you can customize the size of the line use the command, 

you can edit the line size value by change the value (1).





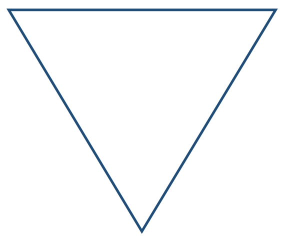
-To clear the lines drawn on the stage, use the command. 

Draw regular geometrical forms

Activity (5)

With the help of your teacher and cooperating with your colleagues

.Draw equilateral triangle on the Stage



....

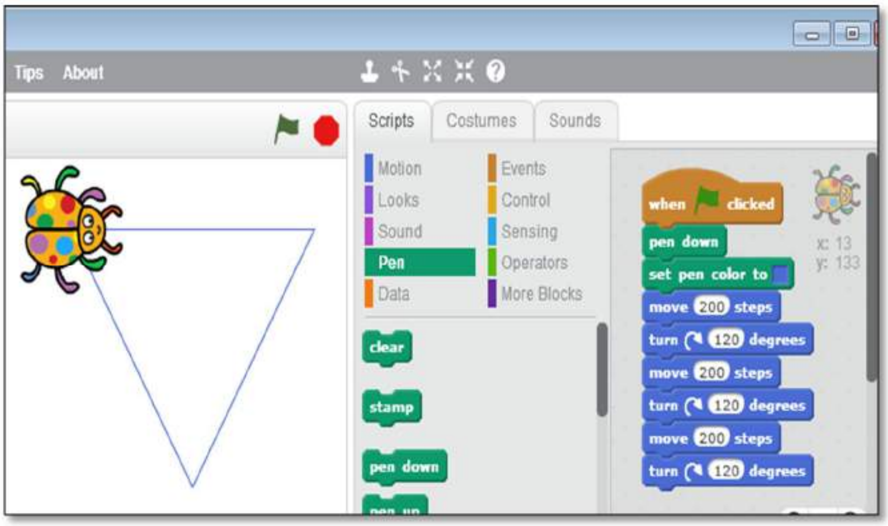
....

Planning the project

To draw an equilateral triangle, notice it consists of three equal lines.To draw them do as follows:

1- Move the shape200 step to draw the first triangle side.
2- Draw the second side changing the direction 120 degree. [Discuss with your maths teacher the angle of shape rotation]
3- Repeat the same steps three times
4- Use the following orders.

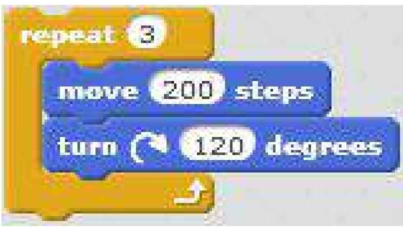




Notice

In the previous project , you can use the REPEAT order changing the number to draw the triangle, you changed it 3 times.



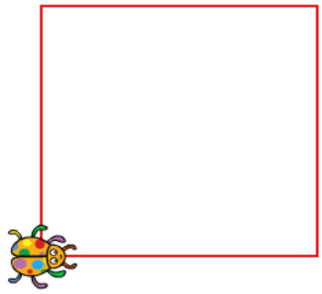


ACTIVITY (6)

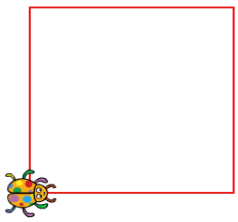
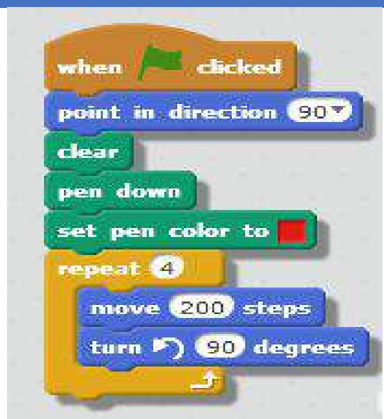
With the help of your teacher and cooperating with your colleagues

Try to draw a box using the Pen commands.

……………………………………………………
……………………………………………………

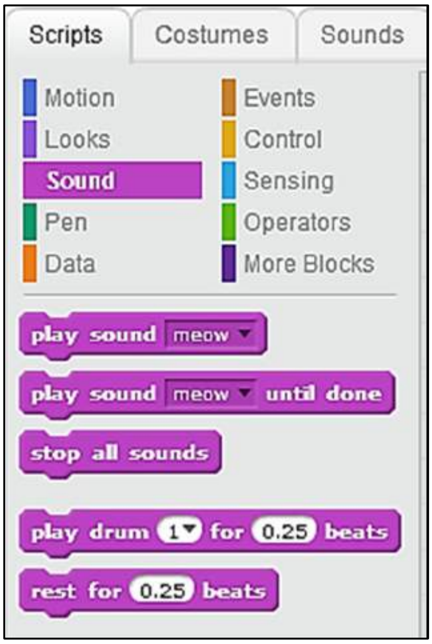


-Dear student to draw lines (sides) box follow:

Result	description	Code blocks
Draw a square red-colored as in Figure: 	1- determine the direction of the sprite 90 landscape. 2- clear the platform. 3-put the pen. 4- change the pen color to red. 5- modify the frequency value (4 times.(6- is moving forward (200 links.(7- the turnover value of 90.	

Sound Blocks

Dear Student, that the use of sounds adds to stories, games and projects beautiful and interesting, Scratch program contains a collection of sounds and deal with different and divided types to a range of categories such tunes category, the category of sounds, sound effects category, the category of animal sounds, and the sounds of musical instruments.



Activity (7)

With the help of your teacher and cooperating with your colleagues

Add a sound clip to record the word [SQUARE] and play it after finishing drawing the square

....

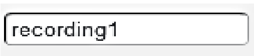
....

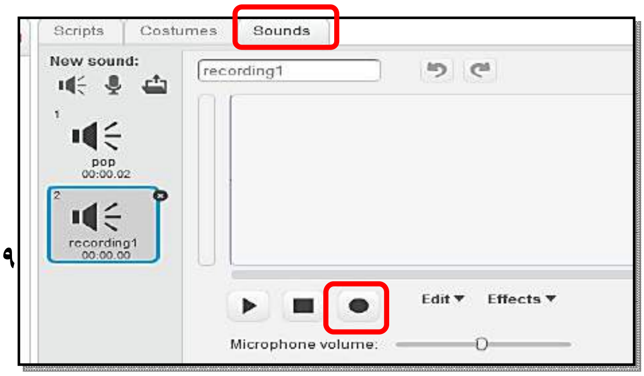
To do this follow these steps

1- 1- Add order from  SOUND

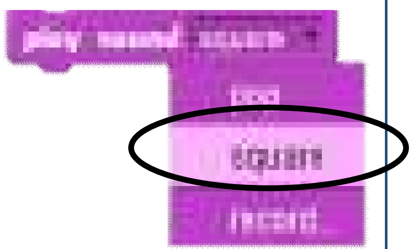
2- 2- Press the arrow in the drop list 

3- Select RECORD
4- Select SOUND tab 

5- Press RECORD .
6- Record square
7- Press STOP 
8- Write SQUARE 

٩-


The name Square is added to the drop list



place the voice command to the previous code blocks as follows:



Activity (8)

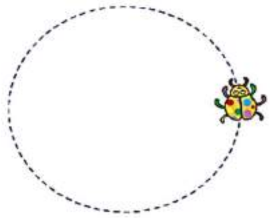
With the help of your teacher and cooperating with your colleagues

Execute the following commands, and then write a description of each command and as a result of the implementation of the code blocks of the table:

Code Blocks	description	result
	....	....

Activity (9)

With the help of your teacher and cooperating with your colleagues
Draw a circle by drawing a set of points as follows:



..

..

-Dear student before starting the project implementation must think and analysis of how to get to the idea that will make you draw a circular shape using dots, and project implementation depends on the steps (orders):

-Place the pen.

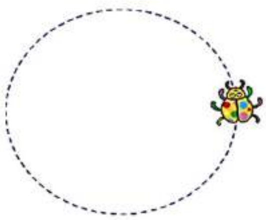
-Move the sprite (small).

-Lift the pen.

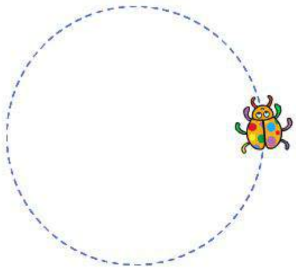
-Move the sprite without drawing.

-Repeat the steps with the specified number.

-Rode commands that are required to get the desired shape.



The following table shows how to implement the draw the desired shape:

Code Blocks	description	result
	1. pen mode. 2. the sprite movement (5 steps.(3. lift the pen. 4. the sprite's rotation angle 5. 5. the movement of the sprite (5 steps) without fee. 6. place the previous command within command repetition (500 times.(	Draw a circle by dots 

Note that in the previous project dear student

1. the direction of the sprite at the beginning of the movement.

2. clear the platform.

3. change the pen color to blue.

These orders are placed outside the repetition (performed only once).

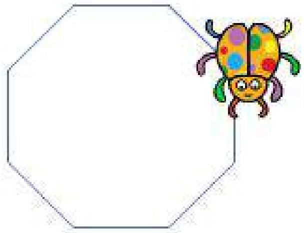
4. run the project icon.

5. you can use fewer in frequency order.

Activity (10)

With the help of your teacher and cooperating with your colleagues

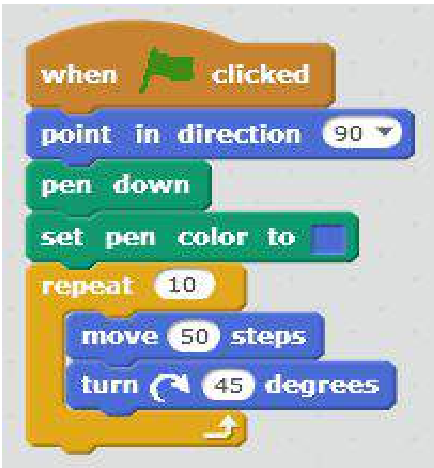
Discuss how to draw regular geometrical forms like eight shape as shape using the Pen and pencil orders control orders Control.



....

....

Dear student, installation of the following commands to show the desired shape:



Dear student ask maths teacher to understand how to determine the value of the rotation angles in the previous activity .

remember

Pen Blocks :

blocks	Function
pen down	Put the pen down
pen up	Lift the pen up
set pen color to	Chose color
clear	Clear the stage

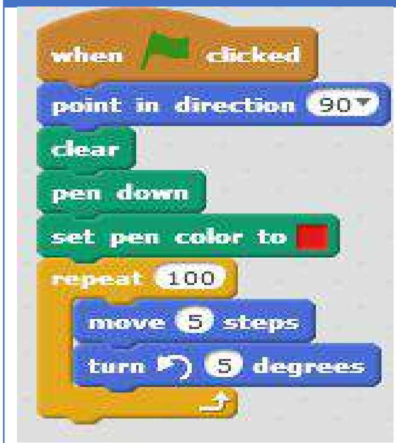
Use the Turn of Motion Blocks for the sprite's rotation angle:



Questions and Exercises



First question: explain the following code blocks is intended as a result:

Code Blocks	description	result
	…………………… …………………… ……………………	…………………… …………………… ……………………

Second question:

Explain the steps for adding a voice recorder inside a group code………………………………………………………………………………?

………………………………………………………………………………

………………………………………………………………………………



Question for the next lesson:

After you know the Scratch program,

How do I create a project using Scratch program?

The fifth topic

Dealing with

(Sensing) Blocks

And conditional control

IF……Then

Sensing Blocks

Sensing range is used in many games projects to reach the desired result, and achieved the desired goal.

Activity (1)

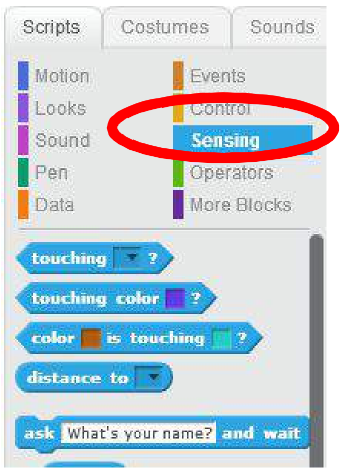
Dear student

With the help of your teacher and cooperating with your colleagues discussed using Sensing group events, Record your feedback.

…………………………………………………

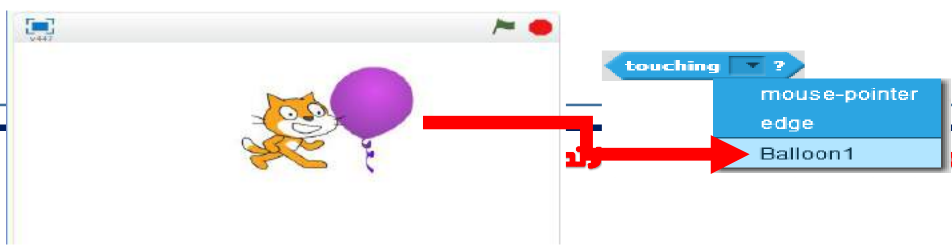
…………………………………………………

Sensing range of events are the most important skills and depend on many software projects based on design and construction of games and educational applications.



-Sensing group events are used in code to achieve a specific goal upon the occurrence of an event is used like the following events.

- sprite touching another One



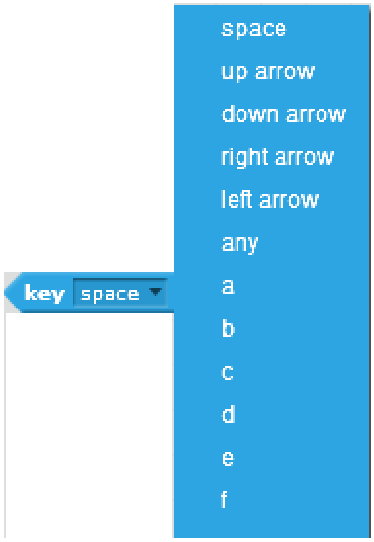
–

sprite touching a particular color





–Pressing any key of the keyboard



Dear Student Note that range Sensing events, help you to:

•used as a condition or restriction to achieve a certain result of the project.

•linking the implementation of programmatic Orders section by clicking on the mouse or pressing a key on a keyboard keys and also link the execution of orders the movement of your mouse.

• Do not use Sensing events alone (but through the use of control blocks) .

Control Blocks

Activity (2)

Dear student

With the help of your teacher and cooperating with your colleagues,

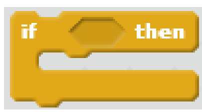
Design a project to achieve a particular goal, a move sprite (cat) and change his place on the stage when contact with another sprite.

Type the project steps:..

....

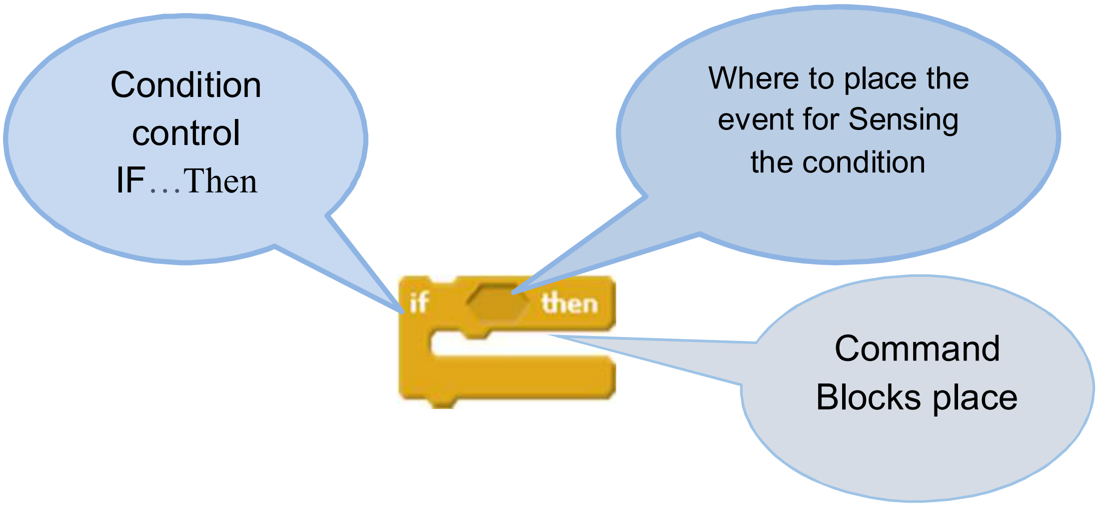
....

Dear student project idea depend on it when coming into contact with an sprite (cat) for another sprite achieved the desired result (target achieved) this requires that use events for Sensing range and to be able to use any of these events must be employed with a particular condition commands.



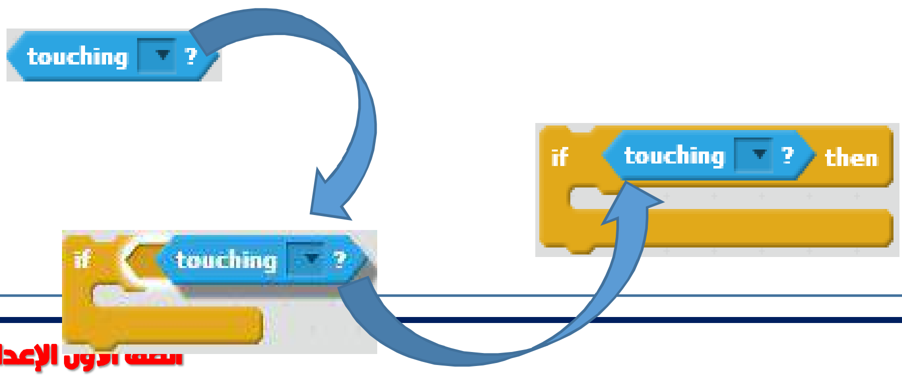
First: use conditional control command from the Control Group.

Conditional IF control command. Than is used in the implementation section according to a particular condition code, if the condition inside and commands are executed if not inside of instructions.



how to use conditional control command IF….Than with Sensing group events:

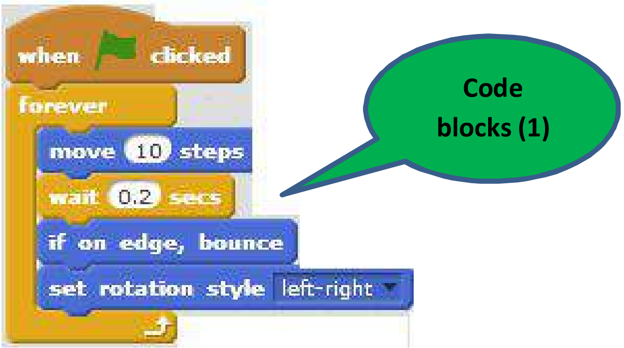
-Dear student ever learned how to drag commands to Script programming zone Area in the same way Sensing group events are put in place in order to control command IF…..then as follows:



Dear student design project, installing the desired goal script section when the green flag clicked, so follow these steps:

First: the movement of a sprite (cat.(

Programmatic section of the movement sprite (cat) on the catwalk regular traffic round trip.



Secondly: handle sprite (Dog2).



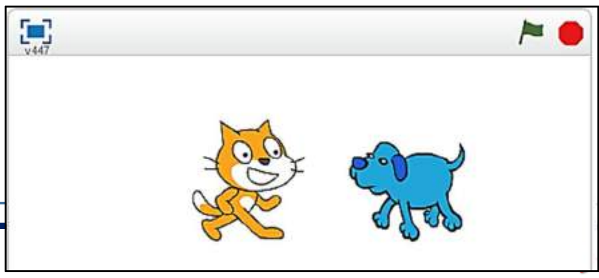
•Add new sprite (Dog2).

•Change the orientation of an sprite (Dog 2) is opposite to the direction of the sprite (cat), so choosing flip left – right from your toolbar to edit and draw the sprite.

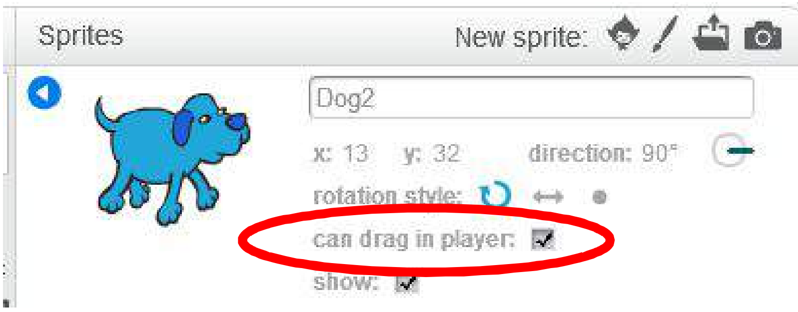


- To reflect the sprite horizontally .





1-To move the dog by hand on the platform (use your mouse to place around the sprite (Dog2) to chase a sprite (cat) during operation of the project), use the info sprite (Dog2).



Thirdly: Use the 

event with conditional 

control

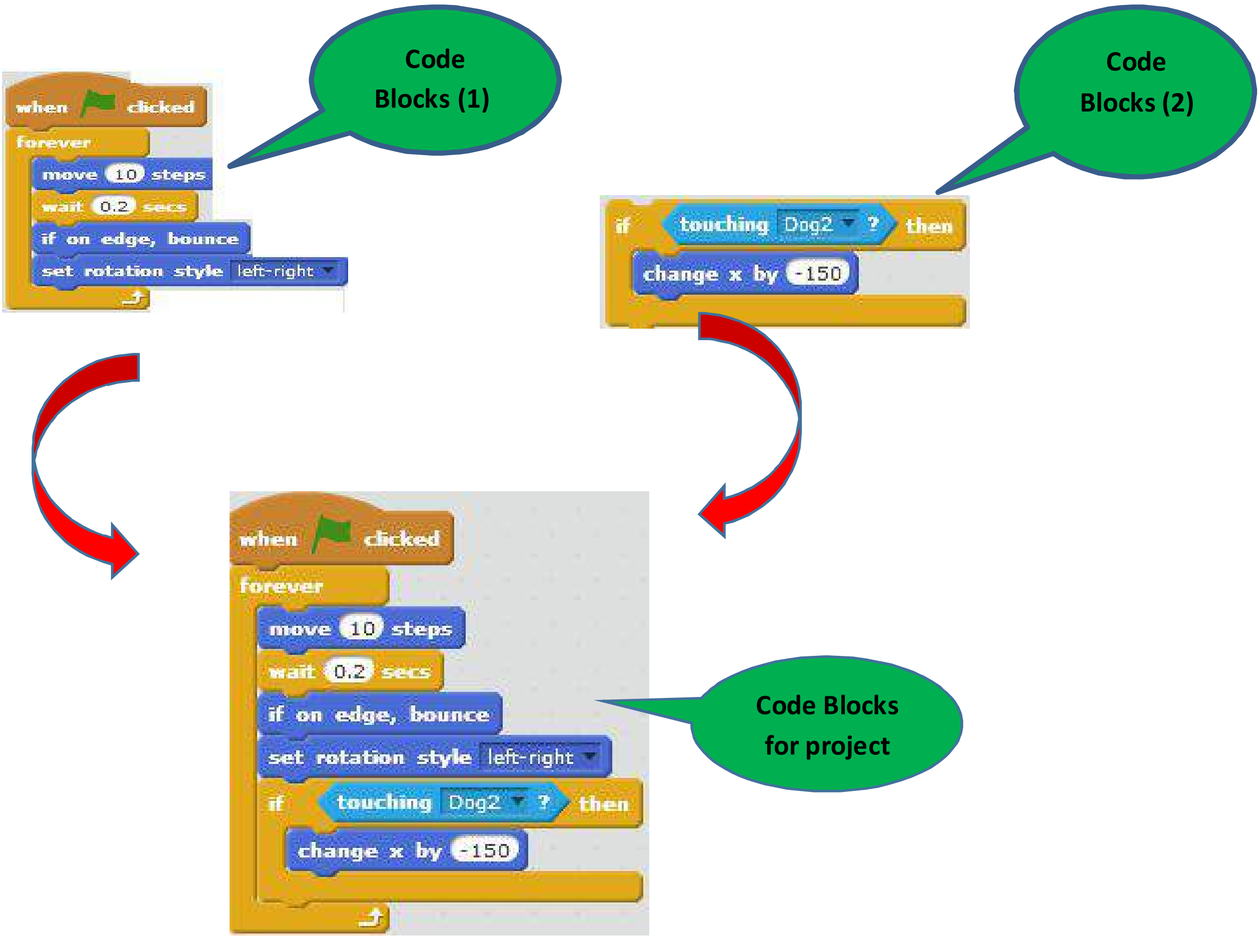
-Active sprite (cat) and choose the event 

from Sensing range (when coming into contact with the active sprite to another sprite (Dog2.(

-Select the control command officer If….Then.

-Install the compiler section to achieve the "change place sprite (cat)" when touching the event sprite (Dog) 

Dear student to implement code blocks (2) installing the cod blocks (1) to be the final script section to carry out the project as follows:



• Save the project (cat and dog)

Activity (3)

Dear student in collaboration with your colleagues, modify the project (cat and dog) to read as follows:

•When you move an sprite (cat) on the platform displays different manifestations-forms.

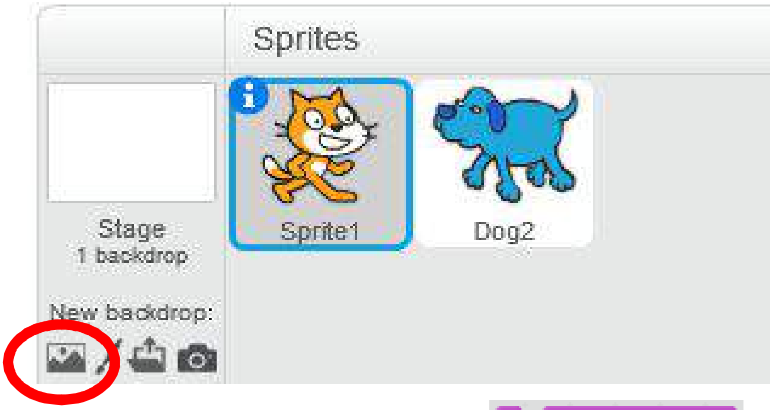
•Add a background to the podium and be suitable for the project.

•Export an sprite (cat) sound when it hits an sprite (Dog2)

Dear student to edit project script section select the required command arrangement and fitted as follows:

Use the command for displaying different aspects of a sprite forms (cat.)

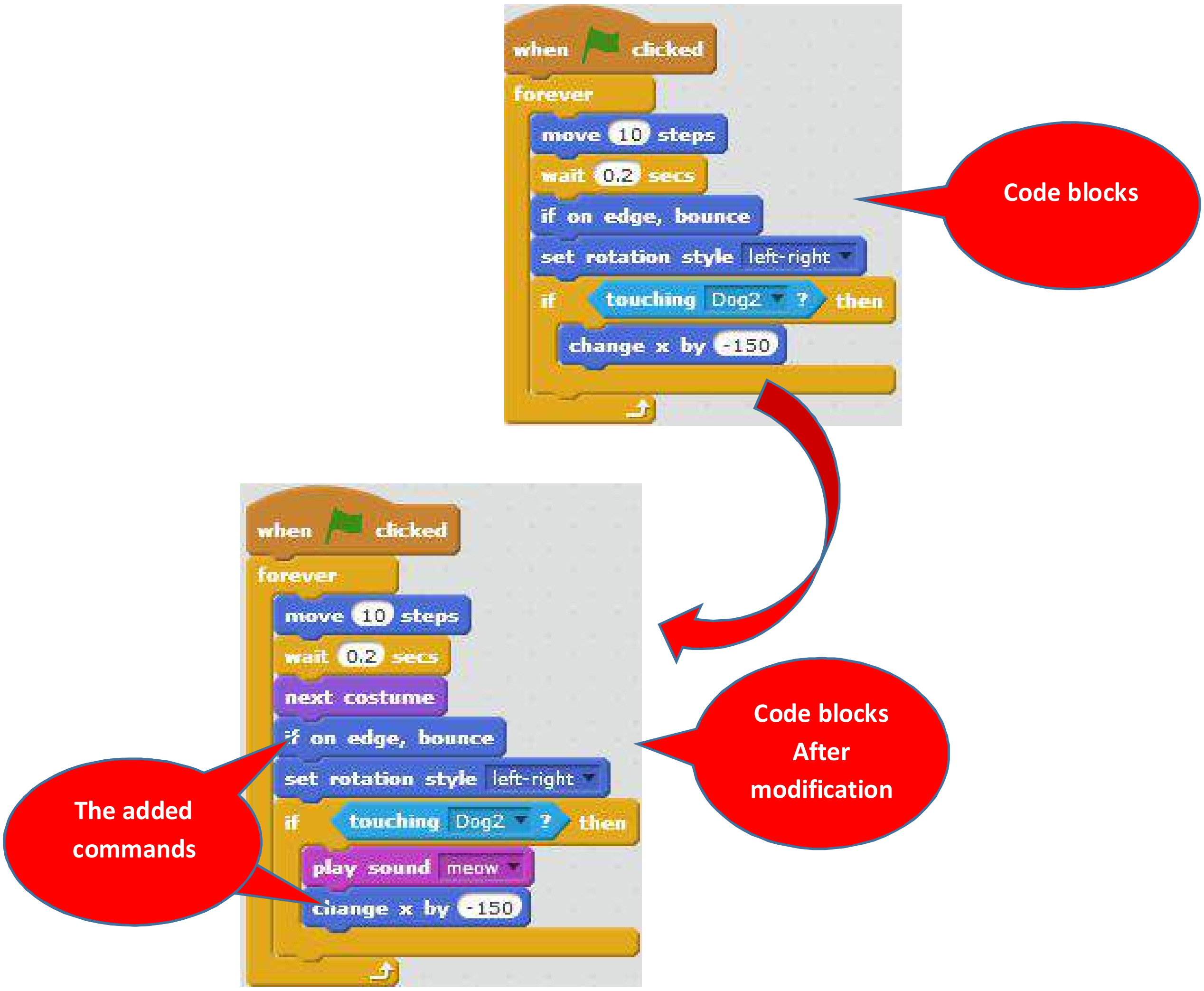
-Add a new background to the stage.

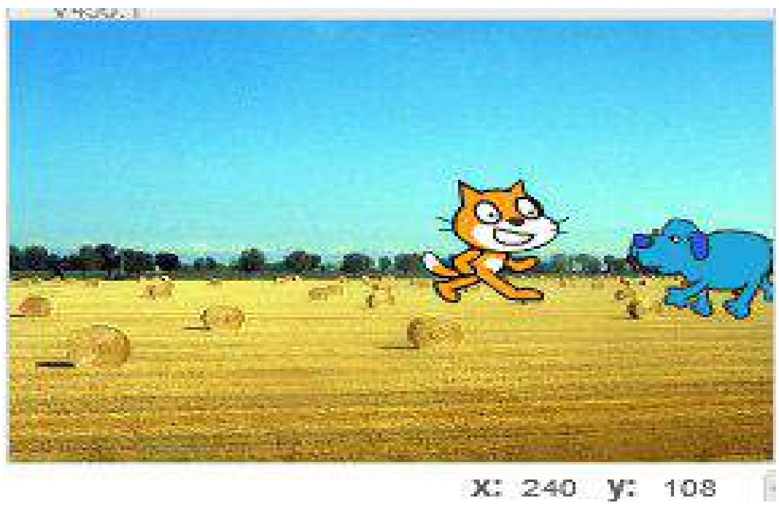


-Use Ordinance sound for a sprite (cat).



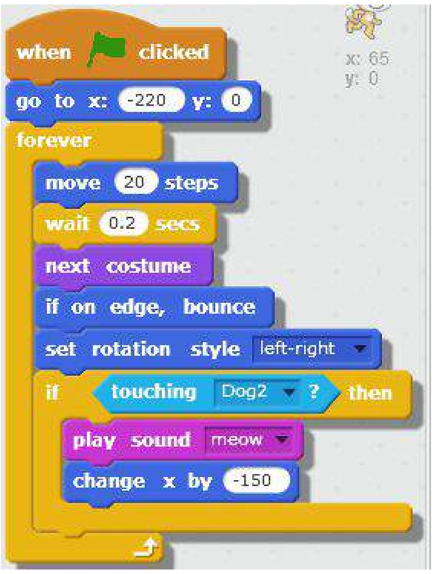
-Modify the previous project code blocks to read as follows:





Save project (cat and dog game 2)

Type a description of the steps the project with the following table:

Code blocks	description
	……………………………… ……………………………… ……………………………… ……………………………… ……………………………… ……………………………… ………………………………

Using some of Operators Blocks

Activity (4)

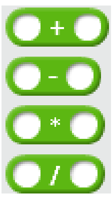
With the help of your teacher and cooperating with your colleagues

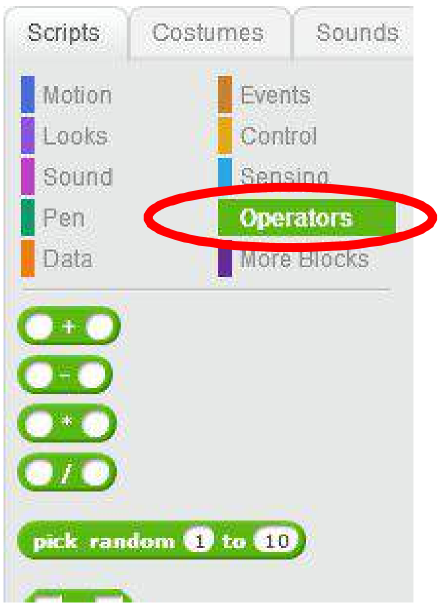
Discussed: different transactions in a set Operators, record your feedback.

……………………………………………………………………………………

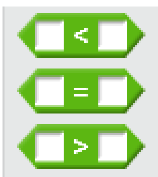
There are many processes within the Group of Operators such as follows:

1- Calculations (collection, etc.) and use computational transactions Arithmetic Operators .





2- Special operations (greater than, less than, etc.) and use them Boolean Operators .



Dear student so you can use transactions within the code block and show the result we use plan Operator as in the following table:

Operator	Example	Sprite & Result
		
		
		
		

Activity (5)

With the help of your teacher and cooperating with your colleagues

How to change a place sprite (cat) with random values for top, bottom, far right and left the stage ....

....



–Dear student of interesting uses in designing projects that can use how to generate random numbers to make random movement of the position of the sprite on the stage or in use in various games, and to do so from the Operators collection, use the plants to generate random numbers between different values (1:10).

– To install the code blocks as follows:

–Choose the command to specify a point (X, Y) 

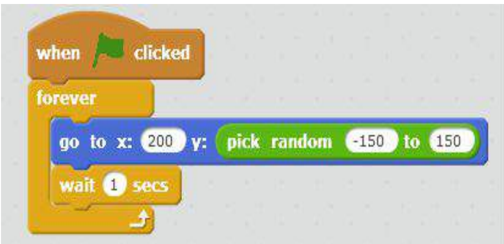
location of the sprite on the stage.

–Choose a command repetition Forever to do repeat endlessly.

–modify value Y using a coefficient that generates a random number as



follows:



–Note the Y value will take random values each time between (–150, 150), which changes from place sprite on the stage.

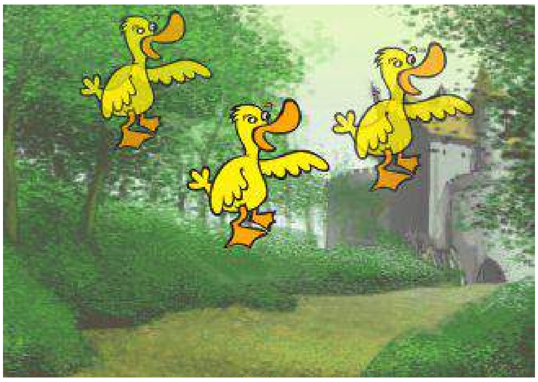
Activity (6)

With the help of your teacher and cooperating with your colleagues

Design the game sprite (a bird duck):

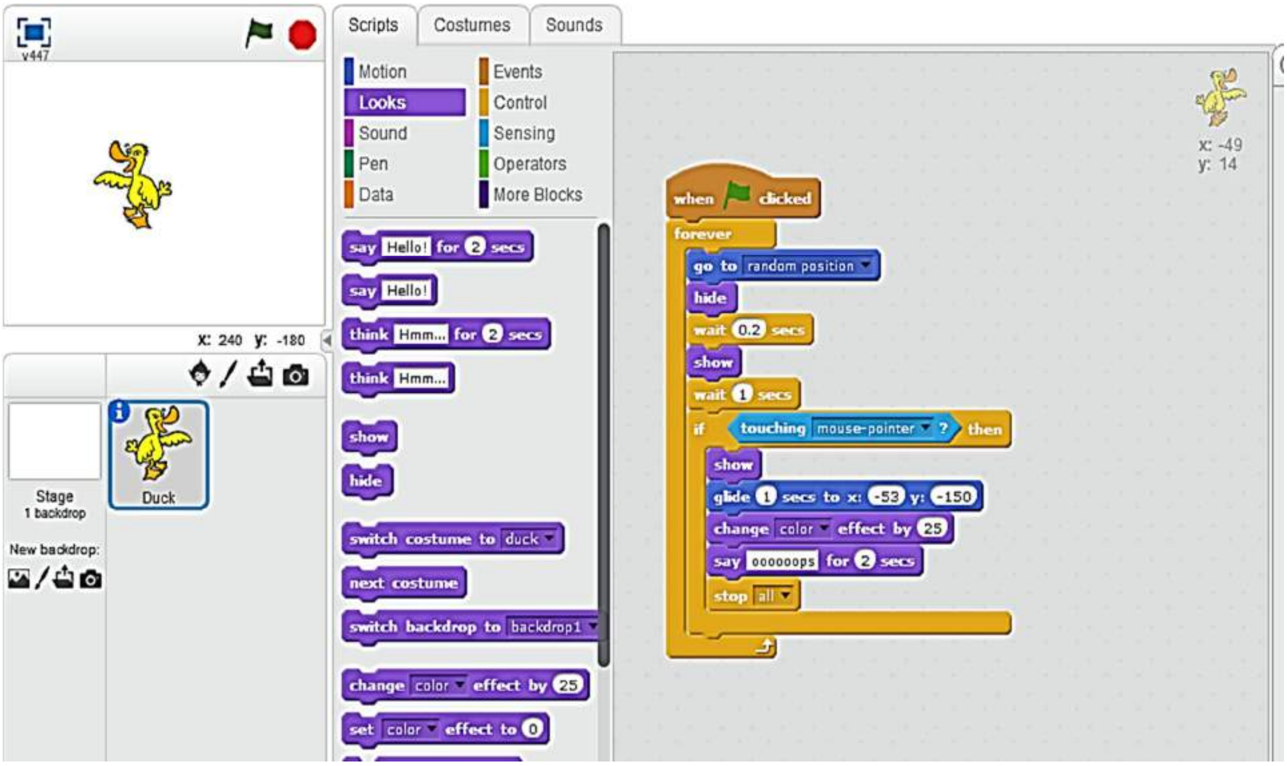
-Shows and hides the sprite (a bird duck) on the podium each time period.

-When you click on the sprite (a bird duck) pointer, the sprite falls down the catwalk and stop the game.

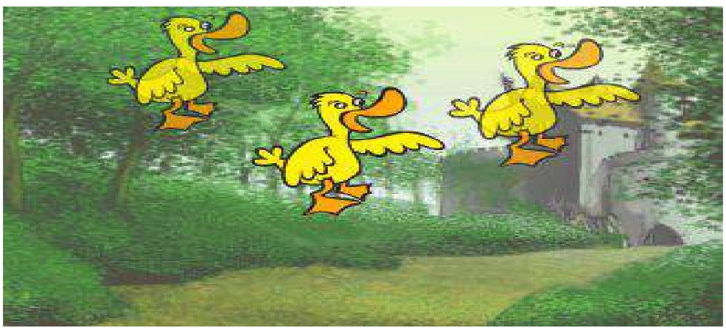


………………………………………………………

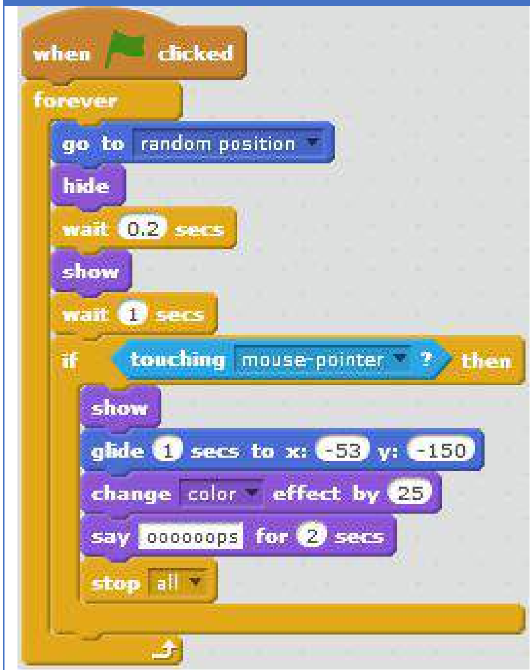
………………………………………………………



–Note dear student to complete the final form of the game add suitable background, and the sound when you fall down the catwalk.



– Type the code blocks steps to design a game that you installed with the following table:

<table>
<tr><th>Code blocks</th><th>Design steps</th></tr>
<tr><td>


</td><td>
....
....
....
....
....
....
</td></tr>
</table>

remember

Sensing events:

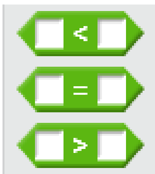
- used as a condition or restriction to achieve a certain result of the project.
- Do not use Sensing events alone (but through the use of control blocks).

Use conditional control command  **from the Control Group.**

Calculations (collection, etc.) and use computational transactions Arithmetic Operators.



Special operations (greater than, less than, etc.) and use them Boolean Operators.



The sixth topic

Design and Create the project

Objective

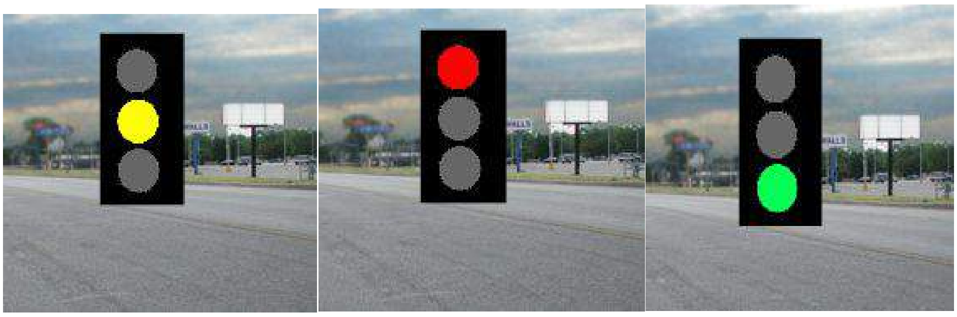
At the end of this topic the student is expected to be able to:

.Creates a project using Scratch •

.The program uses in the production of drawings and animations •

The first project

–Design of traffic signal as in Figure



To Exchange traffic lights up every specified number of seconds.

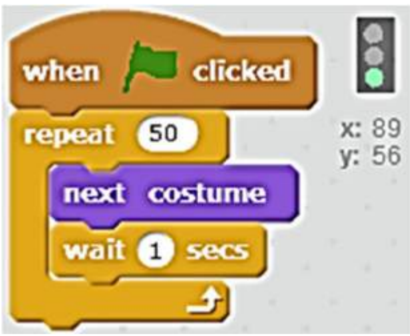
–Guidance solution:

1–Draw the object "traffic signal."

2–more than Customs for the same object "traffic signal with three lights “.

3–develop a suitable background for the stage.

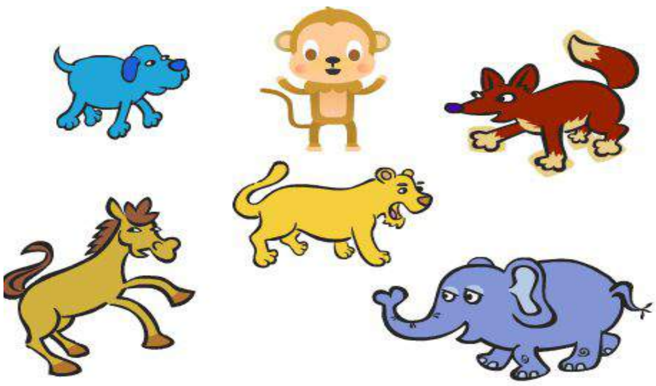
4–execute code blocks that come through.



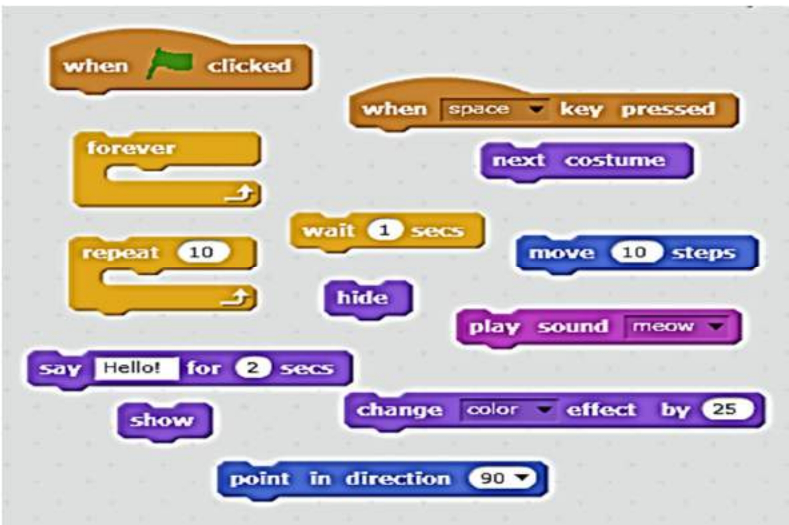
Second project

I imagine – I'm creative

–Design a short story between some of the following animals:



–You can use the following Blocks:



The third project

–Design story of the girl ,"JoJo" and "the little frog".



When you run the program

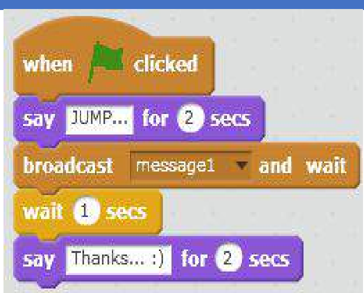
"JoJo" says to frog jump, "little frog " jumps several times.

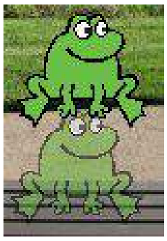
Solution steps

After inserting the first object and change its name to "JoJo"

And the second object and change its name "little frog"

Complete the following:

"Group code for "JoJo	description	result
	....	

"Group code for –frog	description	result
	……………………… ……………………… ………………………	

Unit Two

Internet

By the end of this unit, the students are expected to be able to..

- define the concepts, operations and basic structure of the internet.
- show the concepts and basic operations of the services and applications of information technology and communication.
- recognize the intellectual security types, cultural, ethical, social and religious which are related to the usage of information technology and communication.
- apply technology tools for communication with others to support the learning process.
- use technology resources to deal with electronic information
- apply some tools to do the educational activities and convey the objectives.
- decide the key words used in e-search through technological resources.
- do research activities for e-information (text- image – videos) available on validated .
- use certified electronic resources.
- apply Egyptian Knowledge Bank to do educational tasks.

The first topic

BASIC CONCEPTS OF THE INTERNET

OBJECTIVES:

By the end of this lesson, students will be able to

- **define the Internet**
- **distinguish the idioms used in the internet**
- **deduce the basic elements of internet requirements**
- **recognize the elements of a web site address**
- **differentiate between upload and download**

Internet

Dear Students:

You already knew about computer networks (LAN– WAN) and the geographical area necessary for each one, how to use them and their importance for sharing data among colleagues. Now we will know the Internet and its services.

Activity (1)

Dear Student,

With the help of your teacher and cooperating with your colleagues, search for the meaning of Internet concept

…………………………………………

…………………………………………



Internet is:

–A network which is composed of a group of connected networks. Each network consists of a group of computer sets, communication equipment and lines, in addition to necessary software. through these, the communication process is done.

Connecting the Internet Requirements

If you want to connect to the internet, you will need the following:

1. **A computer set with a network adapter**
2. **Internet Service provider (ISP), which is a company that provides the service to customers.**
3. **An internet browser, which is a software**

The most known browsers are : Google Chrome, Internet Explorer and Firefox.

Concepts and Idioms

Protocol:

To deal with your classmates, there must a kind of understanding and agreement on a certain rules to be followed in speech and communication. Computer sets are the same on the internet; they need certain rules for communication, which is called a protocol.

Protocols send and receive data on the internet; each of them has a certain job.

The most used protocols on the internet: (enrichment)

1- TCP/ IP protocol

This protocol is used in connecting computer sets to the internet .It consists of two important protocols:

- TCP (Transmission Control Protocol) which is responsible for validating data transformed from a set to another.

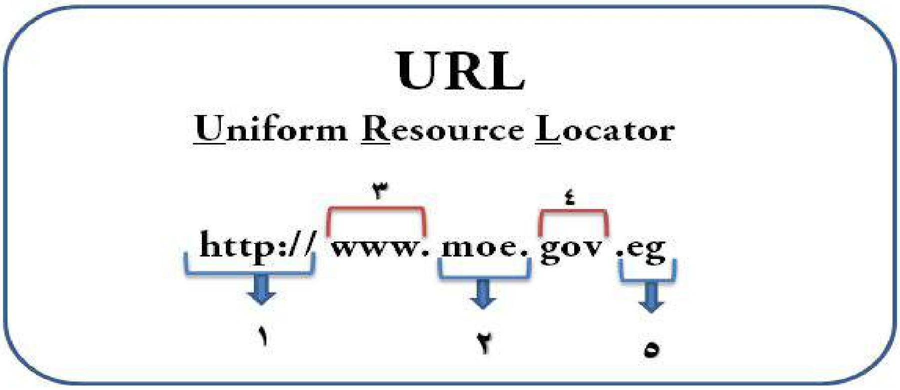
- IP (Internet Protocol) ,which is responsible for transforming data from a set to another.

2- FTP (File Transfer Protocol) , which is responsible for transforming data from and to the internet

Website

It is a webpage or more, connected to each other with a certain name .They are stored on the web server. The website has an address on the internet known as URL (Uniform Resource Locator). This website can be visited through a computer set or a mobile phone .

The URL consists of the following: (enrichment)



The elements of the URL are as follows: (enrichment)

1. http : decides the protocol type.
2. moe : decides the server, the computer set with the stored data.
3. www : world wide web
4. gov ; the type of organization and service
5. eg : the country

Web Page: (enrichment)

It is a document with an electronic content that is published on the internet and shown through a web browser.

Home Page: (enrichment)

It is the first page on the website ,through which the user can go to other pages.

Activity (2)

The Ministry of Education makes it possible for parents and students to visit its website to recognize the educational services like e-lessons , e-books and even to communicate better with it.

With the help of your teacher and cooperation with your classmates , discuss the following website : http://www.moe.gov.eg

....

....

Hyperlink : 

It is an image or text refers to a URL , when clicking it, you go to the URL .It can be in the same page or on another page or even another site.

Download files :



It is the process of transmitting or copying files or programs through the internet to the computer (these programs can be used offline)

Upload files



It means to transmit a file or a program from your computer to another on the internet.

Activity (3)

With the help of your teacher and cooperating with your colleagues, discuss how to download the National Anthem file .

……………………………………………………………………………………

……………………………………………………………………………………

REMEMBER

Internet is

A network consisting of a group of networks connected to each other. Each network consists of a group of computer sets, communication lines and equipment in addition to communication software, through which the communication process is completed .

Protocol:

It is the certain rules for communication and speech ,as for computers on the internet, they need to define rules for communication rules.

Website

It is a webpage or more, connected to each other with a certain name .They are stored on the web server. The website has an address on the internet known as URL (Uniform Resource Locator). This website can be visited through a computer set or a mobile phone .

Hyperlink :

It is an image or text refers to a URL , when clicking it, you go to the URL .It can be in the same page or on another page or even another site.

Download files:

It is the process of transmitting or copying files or programs through the internet to the computer (these programs can be used offline)

Upload files:

It means to transmit a file or a program from your computer to another on the internet.



QUESTIONS AND EXERCISES

Question 1: Complete the following :

- Internet is:

  ………………………………………………………………

  ………………………………………………………………

- To connect to the internet , you need

  ………………………………………………………………

  ………………………………………………………………

- The hyperlink is

  ………………………………………………………………

Question 2 : What is meant by

Internet Service provider(ISP).

………………………………………………………………

Protocol

………………………………………………………………

Website

………………………………………………………………



Prepare for the next lesson:

Through the internet , you can use a lot of services.

What are the internet services?

The second topic

Some Internet Services

Objectives

By the end of this lesson , students will be able to..

- state some internet services
- use internet services and applications to make use of them in different fields.
- publish content and files, and exchange them using e-mail.
- discuss the effect of using modern information technology techniques in study and life.

The Internet services

The internet provides many services like:

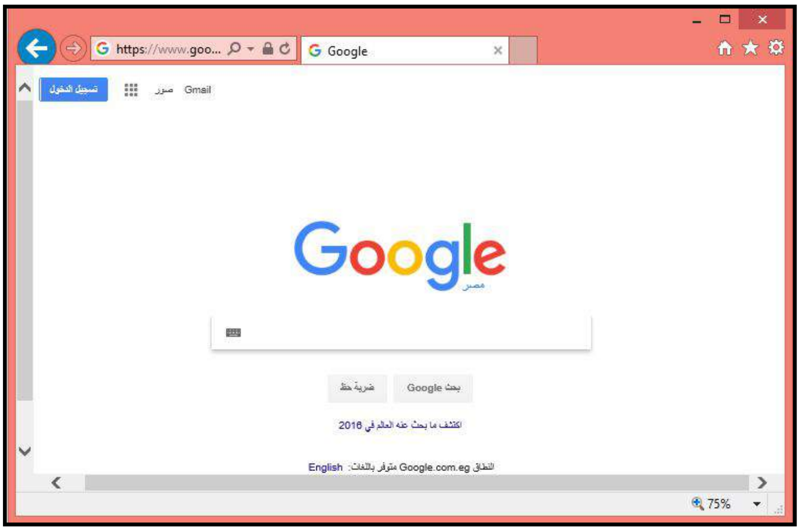
Search on the internet

The search sites on the internet are considered the most sites visited, as millions of users use them to reach the URLs containing the information they need.

These sites provide the best browsers which are the shortest and easiest way to reach information needed. You can search for websites, text files, images , groups, news, books ..etc.

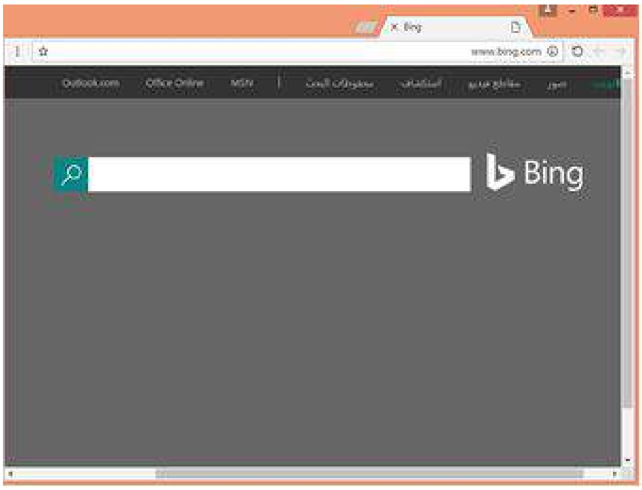
-Google:

It is one of the most famous search engines as it contains millions of websites covering nearly all topics.



www. google.com

–Bing: www.bing.com

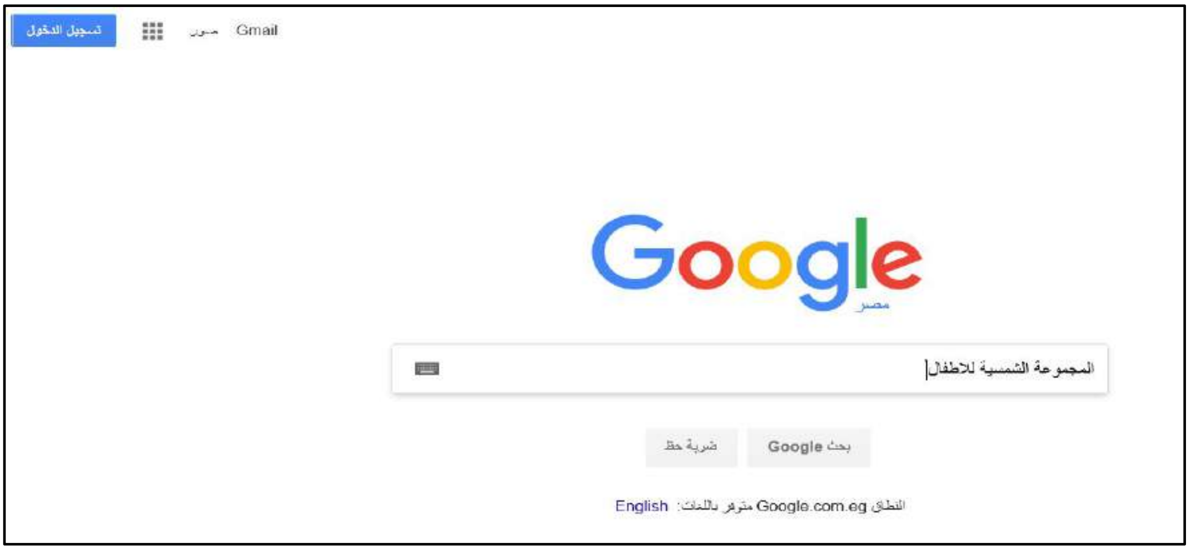


ACTIVITY (1)

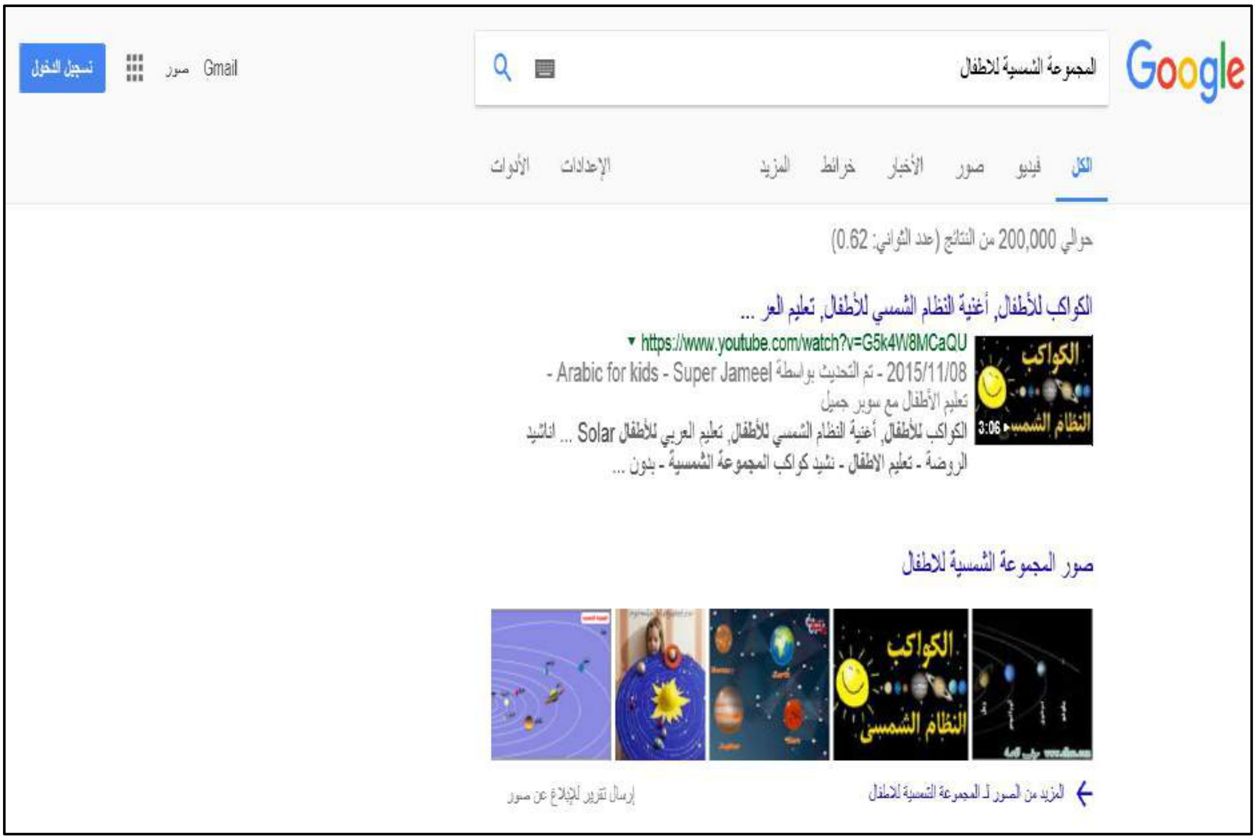
With the help of your teacher and cooperation with your classmates

Do a search for the solar system using GOOGLE search engine.

Write in the search bar on Google , Solar system .



- Click " search" and the results will be shown as follows.



Select one of the search results

Write down your notes.

– Mailing List Service (enrichment)

It is a group of lists for e mail addresses used to forward any mail to a group of people . Each list has a certain title. The mail that is sent to the list will reach each member of it.

FTP File Transfer Protocol: (enrichment)



It is a service to transfer files on the internet to make it easy for everyone to share files

News Group: (enrichment)



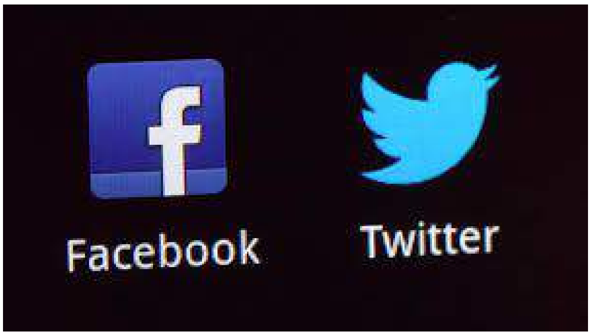
They are sites on the internet where people gather to share and exchange ideas about certain topics like mathematics, geography, science, etc…

–Chat service: (enrichment)



It is the service of meeting of different people from all over the world to talk to each other at the same time. It is possible to see the picture or hear the voice of other participants.

Social Media sites Facebook &Twitter: (enrichment)



Through this service the social news is spread among the users. They also publish ideas and opinions.

Online shopping service: (enrichment)



This service is available on some sites, making buying and selling available online.

E-mail service: (enrichment)



If you want to send a file to your colleagues with the explanation of a certain lesson , what will you do?

When you are connected with the internet , you can use the e-mail service which allows you to send this file to anyone you like soon. It is the service of exchange e mail which may contain text or images or videos.

WWW Service



It is the abbreviation of worldwide web. It is a means of getting information. It consists of web pages written in HTML language and shown by a certain program called Browser.

EGYPTIAN KNOWLEDGE BANK

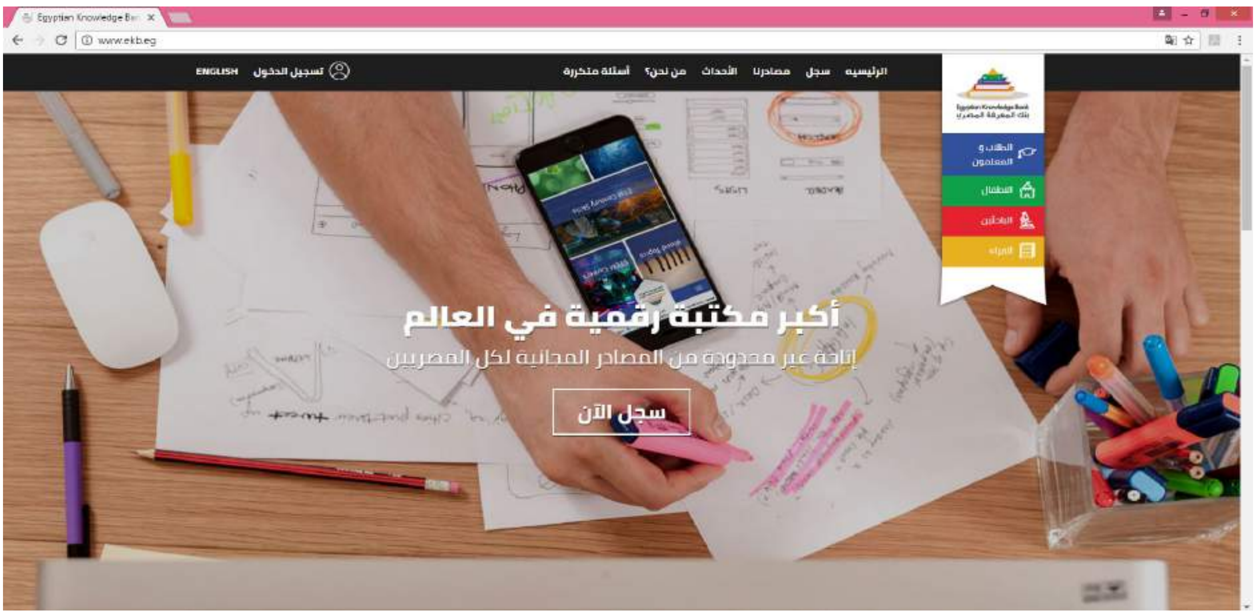
ACTIVITY (2)

With the help of your teacher and cooperating with your colleagues

- Open this site http://www.ekb.eg

- Search for how to register and sign in this site, the objective, the inspiration and idea behind it.

- in order to sign in, you must register new user through the " register " tab



The form to register new user will appear



إنشاء حساب جديد

الطلاب و المعلمون

معلومات شخصية

الاسم الأول	abeer	الاسم الأخير	ibrahim
البريد الإلكتروني	البريد الإلكتروني	رقم الهاتف المتحرك	رقم الهاتف المتحرك
تأكيد البريد الإلكتروني	تأكيد البريد الإلكتروني		
تاريخ الميلاد		الرقم القومي	الرقم القومي

معلومات وظيفية

طالب مدرسي

محافظة		منطقة	منطقة
اسم المدرسة	اسم المدرسة	السنة الدراسية	

طالب جامعي

جامعة / معهد		كلية	
قسم	قسم	شعبة	شعبة

معلم

الإدارة التعليمية	الإدارة التعليمية	منطقة	منطقة
اسم المدرسة	اسم المدرسة	كود المدرسة (اختياري)	كود المدرسة
السنة الدراسية		مدرس مادة	

الشروط والأحكام

بموجب الدخول للموقع واستخدامه فإنكم توافقون على هذه الشروط للاستخدام

يحتفظ بنك المعرفة بحقه في تعديل هذه الشروط للاستخدام في أي وقت بدون أن تقدم لكم إخطاراً مسبقاً. إن استخدامك للموقع بعد أي تحديث هكذا سيعتبر في حد ذاته موافقة منك على اتباع هذه الشروط للاستخدام والالتزام بها بحسب تحديثها. والتاريخ الأخير لتعديل شروط الاستخدام مبين أدناه

١ - الاستخدام المصرح به للموقع

Teachers should fill in the form and register.

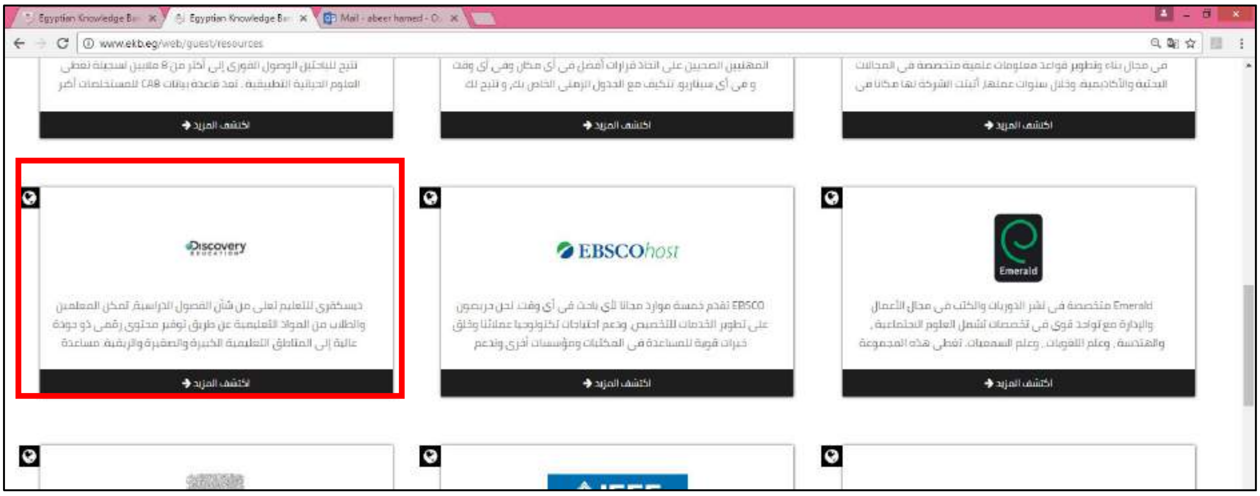
After finishing the registration steps, a window with a new account will appear.



Notice

After registeration and entering the email in the form, a password will be sent in an email to your e-mail address, which you enetered in the registration form.

–Select Discovery Education tab from resources



The following window appears

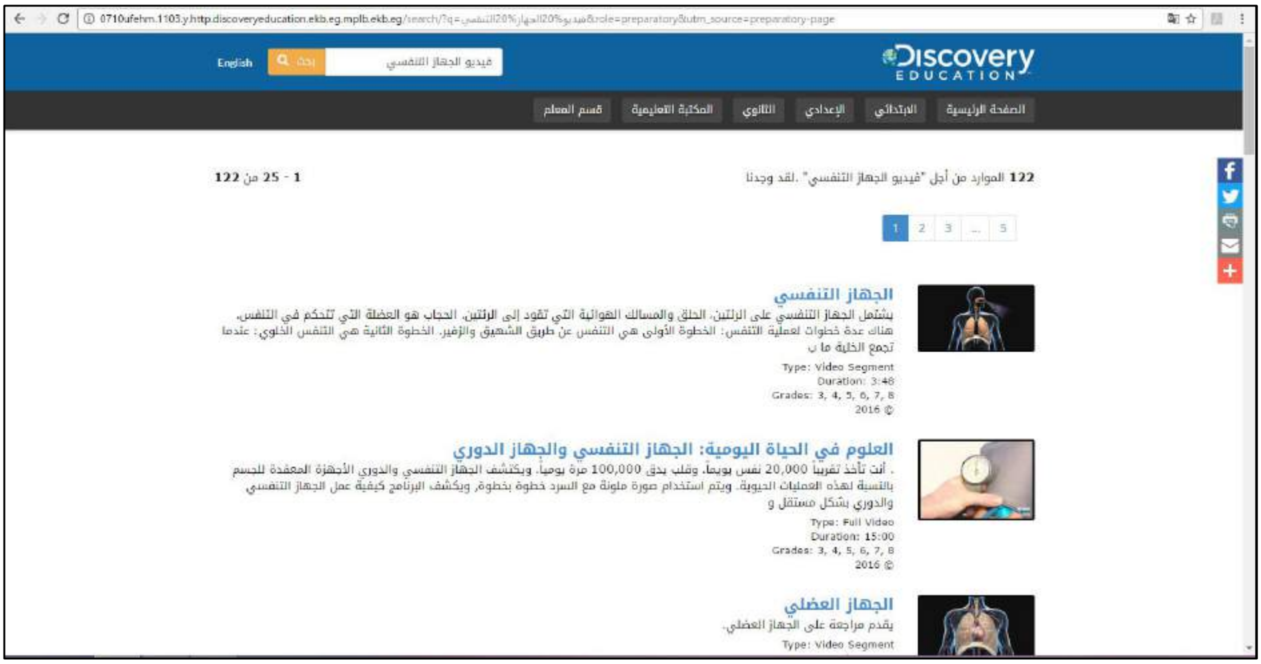


Select the " Preparatory .الاعدادي" tab

Search for "الجهاز التنفسي"



The following results wil appear



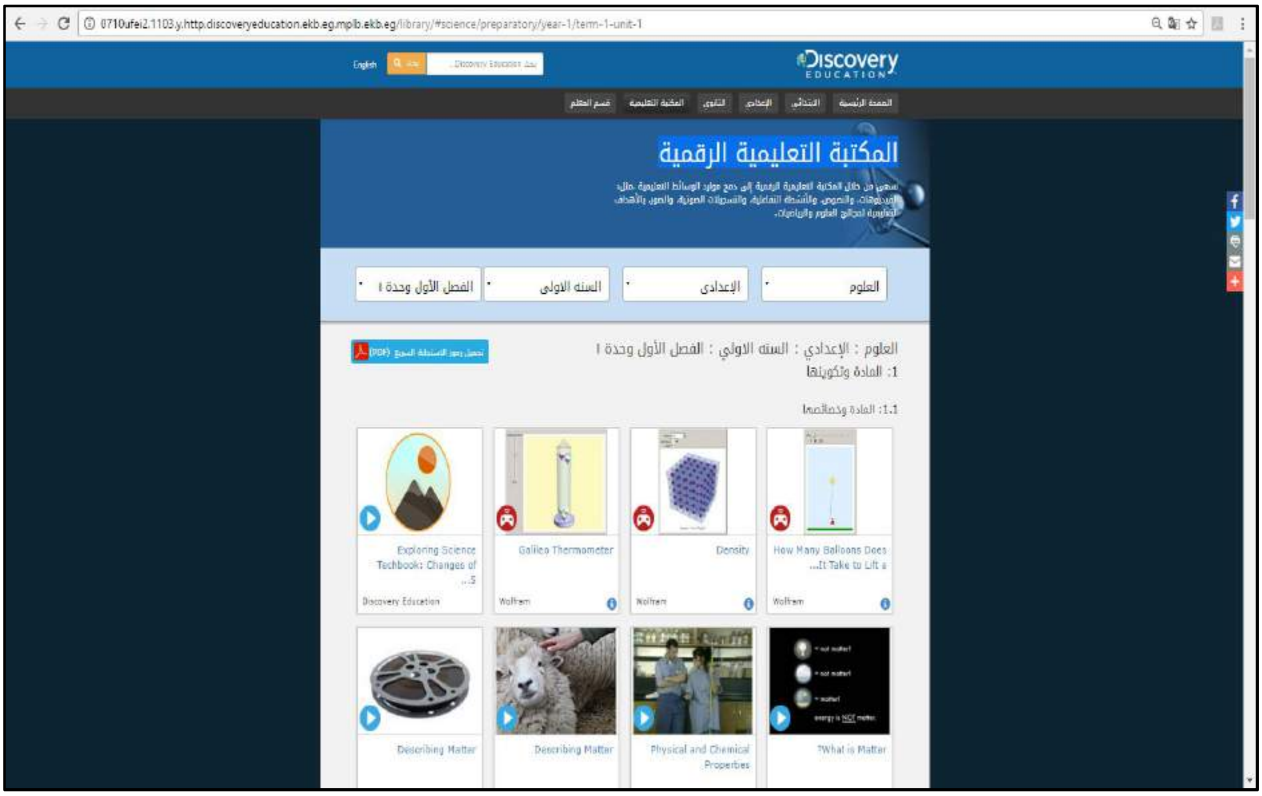
Select one of the search results


English
Discovery EDUCATION
الصفحة الرئيسية > الجهاز التنفسي
الصفحة الرئيسية
الابتدائي
الإعدادي
الثانوي
المكتبة التعليمية
قسم المعلم
الجهاز التنفسي
يشتمل الجهاز التنفسي على الرئتين، الحلق والمسالك الهوائية التي تقود إلى الرئتين. الحجاب هو العضلة التي تتحكم في التنفس. هناك عدة خطوات لعملية التنفس: الخطوة الأولى هي التنفس عن طريق الشهيق والزفير. الخطوة الثانية هي التنفس الخلوي: عندما تجمع الخلية ما ب
علامات

ACTIVITY (3) (enrichment)

With the help of your teacher and cooperating with your colleagues

using the Digital Educational Library , science tab, search for Matter and its structure, matter and its characteristics.



REMEMBER

Internet Search Service It helps the users to reach the sites that contain the information they need.
Mailing List It is a list of email addresses used to forward any mail to a group of people. Each group has a certain title. Any mail is sent automatically to all the people on the list.
File Transfer Protocol FTP A service to transfer files on the internet allowing individuals to exchange files in the internet easily.
News Group sites on the internet where people meet to exchange ideas and opinions about certain topics (mathematics, geography , science , etc....
Chat It is a program on the internet that allows the users to talk to each other at the same time. They can hear or see the images of each other.
Social Media Facebook and Twitter They are sites where individuals exchange social news. They are sites where the users exchange ideas and opinions..
Online service This service is provided by some sites .It is the service of buying and selling online..
Email service It is a service of exchanging email , they may contain text , images or videos.
WWW web service It is an abbreviation to Worldwide web. It is a means to reach information.

Questions and Exercises



First Question : Complete the following :

1. …………is considered one of the most famous search engines on the internet.
2. Mail list service is…………………………
3. …………………………………………are internet services.
4. ………………………is the service of selling and buying on the internet.
5. The website of Egyptian Knowledge Bank is……………………

Second Question : What is meant by :

1. File Transfer Protocol FTP

   ……………………………………………………………………………

2. WWW service

   ……………………………………………………………………………

Third Question; Choose the correct answer

1. "……………"is a place on the internet where people meet to exchange ideas and opinions.

   [Chat – News group – Mail list – File transfer]

2. …………………………is one of the social media sites.

   [Twitter– Updial – Firefox– all of them]

3. ……………………allows you to send file to your colleagues fast.

   [Search – Email – Web – all of them]



Prepare for the next lesson

There is a technology called Cloud Computing .

Search for the meaning of this technology.

The third topic

Basic concepts of

Cloud Computing



Objectives

By the end of this topic, students will be able to…

- define cloud computing
- define the main components of cloud computing
- recognize the requirements to use cloud computing
- Search for cloud computing services.
- recognize the benefits of cloud computing
- recognize the most service providers
- specify some of the basic concepts and idioms of information technology and communication.
- identify the characteristics of using information technology applications and the effects socially, intellectually and educationally.

Think and Find a solution

Activity (1)

Dear Students,

With the help of your teacher and cooperating with your colleagues , define the hardware and software that may help you to create an electronic project to represent your school showing text files, images and videos about your school , with spreadsheets showing the number of classes, students and teachers at school.

……………………………………………………………

……………………………………………………………

To do this ,you need some hardware and software in your computer to prepare the project as"

1. **The Software you need**



- **Text editor**
- **image editor**
- **video editor**
- **PowerPoint**
- **Other programs that may help you.**

2. Hardware

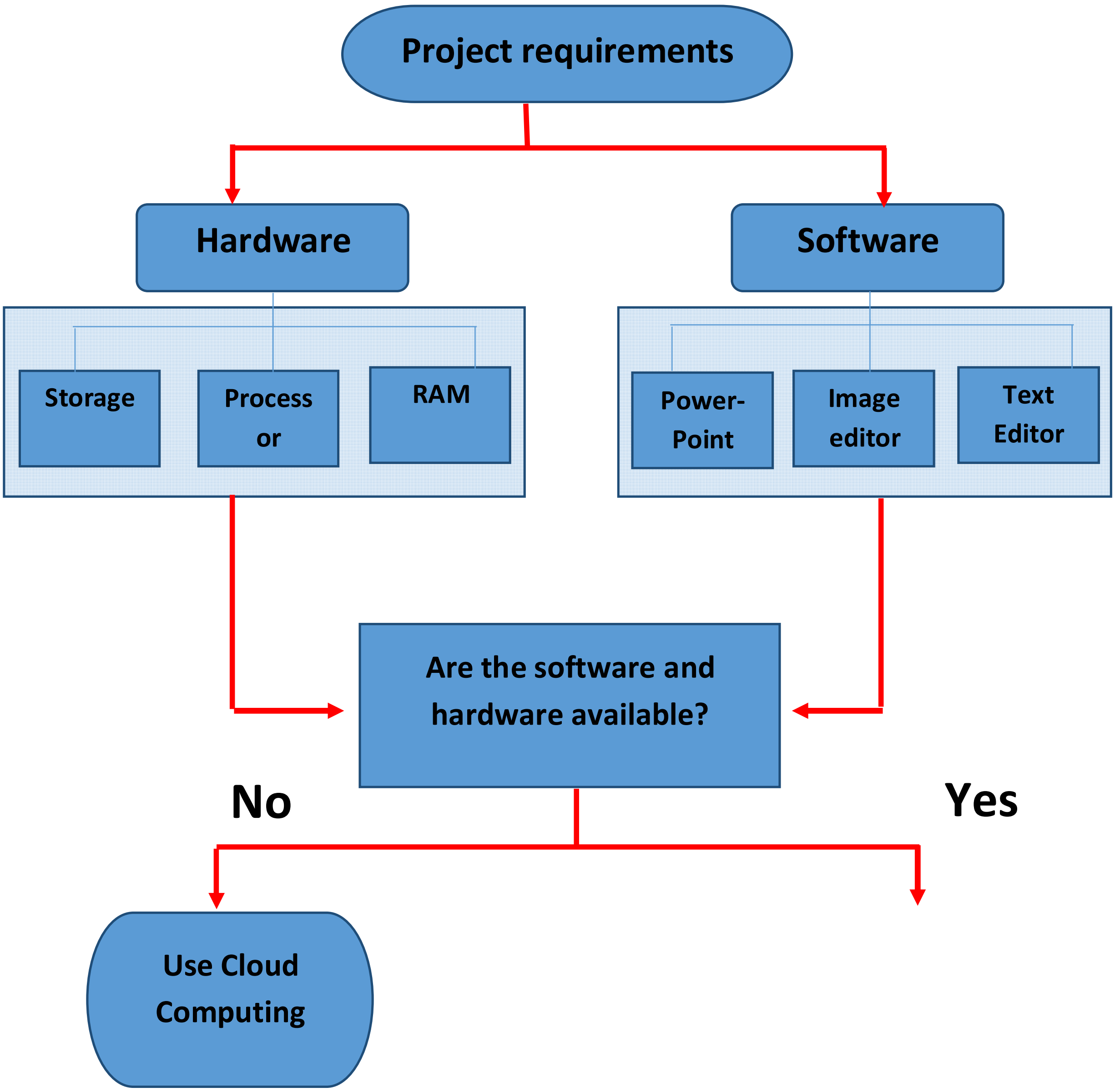
- Storage capacity
- A wide space capacity RAM to deal with different software like creating and editing images, videos files editing , ...etc.
- A high speed processor.

3. Log in to your files anywhere anytime to edit , update and save your project files .

4. Allowing your colleagues to

- go through your project files
- be able to edit your files both at the same time and at another time.

(enrichment)


Project requirements
Hardware
Software
Storage
Process or
RAM
Power-Point
Image editor
Text Editor
Are the software and hardware available?
No
Yes
Use Cloud Computing

Project Steps

When you tried to start your project, you found that all what you have is..



- an operating system
- internet connection

BUT

- no software available
- the hardware does not help much

What will you do !!!!??????!!!!!!!



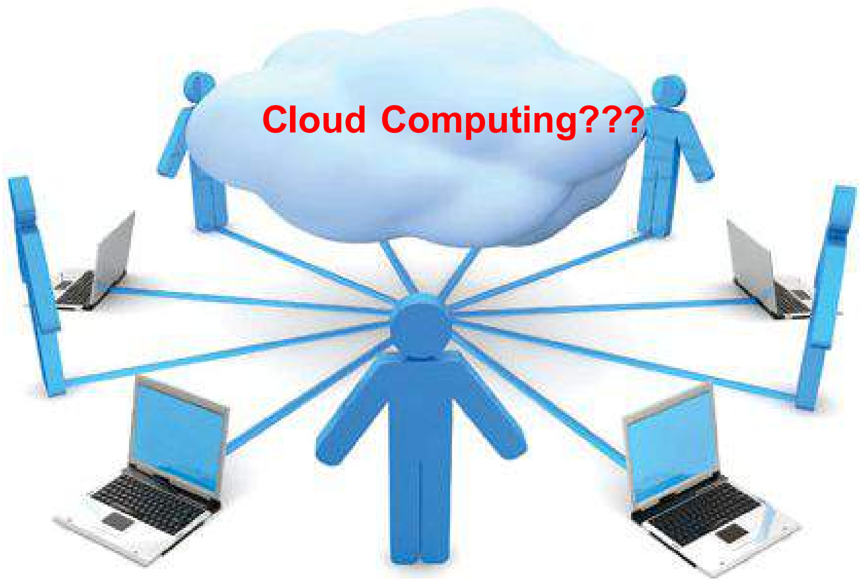
Is there a fast solution for this, to provide you with

- The necessary software.
- the suitable hardware
- no more money
- Allow you to login anywhere at any time.
- allow your colleagues to share , comment and edit when necessary

Yes.There is a solution.



USE Cloud Computing.



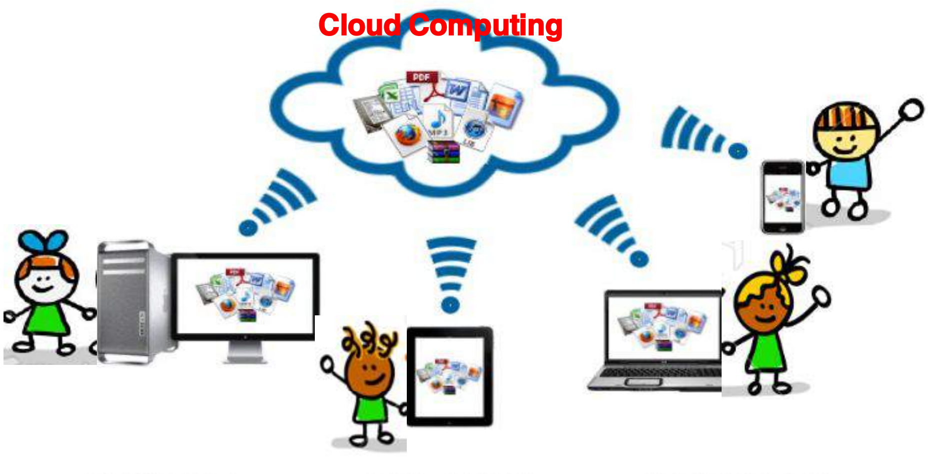
- What is it?
- What can it provide?
- How can it solve the problem?

Cloud Computing

It is the technology that depends on transfer processing and storage of a computer to what is known as (Cloud), which is a server or SERVERS, that can be reached through the internet, to make programs and applications available.

(enrichment) It can be known as a network of servers with the necessary programs and applications. These servers are connected to computers through the internet, available everywhere. Any computer, laptop, iPad, Mobile phone or any set can log in and reach the service of these servers.

(enrichment) It is a new concept to share your electronic sources to produce and exchange information on the internet. It provides the necessary tools to process your data and save them on one of the servers, to be used any time anywhere.



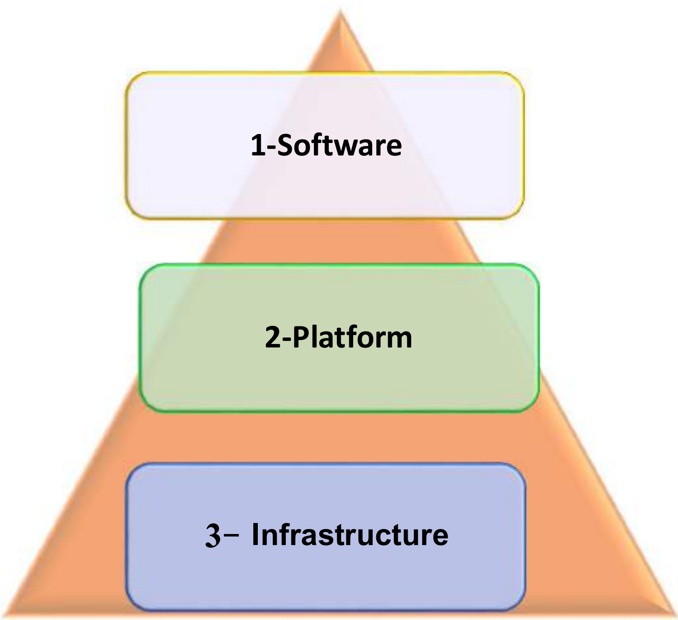
What are the basic elements of Cloud Computing (enrichment)

The basic elements are (enrichment)

1-Software : they are the applications that needed like text editor, spreadsheet , image editor…etc

2- Platform: It is the saving of files and processing the database for all the users.

3-Infrastructure includes hardware such as processors and servers and storage ....



Basic components of Cloud Computing

Cloud Computing Login Requirements

They are as follows:

1. A computer set [PC, laptop, iPad, mobile phone or any set able to connect to the internet.
2. An operating system enables you to get connected [this is nearly available in all operating systems.
3. An internet browser.
4. Internet connection
5. Cloud computing provider

WHAT IS A CLOUD COMPUTING PROVIDER?

It is like a service of web hosting but with more availabilities. It allows the users and developers to use all the available sources efficiently, because of course, the existence of users and developers on the server will be longer and this needs more sufficiency.

What are the services provided by cloud computing?

Some examples are

- Email service, like Hotmail, Yahoo mail, Gmail.

- Cloud storage which is storage capacity provided by the service providers like Google Drive which provided by Google, and One drive provided by Microsoft .
- Cloud Music like Google music, iCloud, Sound Cloud..
- Cloud Applications which are provided in the form of services to cloud computing users like Google Docs, Photoshop Express

What are the benefits of Cloud Computing? (enrichment)

1. Through this service, you can login to your personal data or applications from any place with internet service; because all this is not stored on your hard disc, it is on the Providers' servers.
2. Reducing the cost through :
   - ✓ Reduce the Hardware cost, because the providers will do the job, which requires giant computers with giant specifications of processor, RAM, storage and so on.
   - ✓ There is no need to buy original software or copyright as they are installed on the server.
   - ✓ There is no need to buy the other requirements like big storage media to back up your data.
   - ✓ Guarantee the service work continuously as in Cloud Computing all your data will be stored on more than a server to get it back any time.

- ✓ The provider will repair any breakdown or bugs fast, saving time and cost.

3. Share the resources providing facilities and flexibility
4. Ability to link different websites, like social media applications.
5. Ability to use it in different fields like medicine, education, industry or agriculture.
6. In Education, Cloud Computing provides a more efficient and suitable experience; Cloud computing stores everything in one place : the class register , attendance, home assignments, curricula and so on, and everyone can login to different subjects.

WHAT ARE OBSTACLES AND CHALLENGES [DISADVANTAGES] OF CLOUD COMPUTING?

- It needs internet connection non-stop.
- The possibility of reducing the storage capacity or options.
- Personal data online makes it liable to theft and misuse.
- Disability to reach your data in case of not being connected or a break in the website or the internet.
- The agreement items are too weak to protect the user copyright.

ACTIVITY (2) (enrichment)

With the help of your teacher, search for the most well known providers of Cloud Computing

....

....

The most well-known service providers of cloud computing (enrichment)



- **Red Hat: provide free cloud computing.**
- **Google, the company provides Google App and Google drive for cloud computing storage.**
- **Microsoft provides One Drive and Office 365**
- **Amazon, is the most famous company in the field of cloud computing.**

REMEMBER

Cloud Computing

It is the technology that depends on transfer processing and storage of a computer to what is known as (Cloud), which is a server or SERVERS, that can be reached through the internet.

The basic elements of Cloud Computing:

1-Software.

2- Platform.

3-Infrastructure.

Requirements to login cloud computing

1. A computer set [PC, laptop, iPad, mobile phone].
2. An operating system enables you to get connected.
3. An internet browser.
4. Internet connection
5. Cloud computing provider.

Some of the services provided by cloud computing:

1. Cloud storage.
2. Cloud Music.
3. Cloud Applications.

Questions



1- Complete the following with one word from the list below:

Cloud applications – Benefits of cloud computing – cloud computing – cloud storage - Google – Cloud – Cloud music

1. "................." is an advanced technology that depends on transferring processing and storage capacity to what is known as Cloud.
2. .... , ... , ... are some of the cloud computing services.
3. The ability of connecting different electronic sites is ....
4. ....are some of the most well known cloud computing providers.

2- Mention what you know about :

- The requirements to login cloud computing
- benefits of cloud computing.
- The most well-known service providers of cloud computing.

3-What is meant by

- Cloud computing Service Provider.
- Platform as a main element of cloud computing.

4- Choose the correct answer:

1. The main elements of Cloud Computing are....................

   [software – platform – infrastructure – all of these]

2. ....is one of the benefits of cloud computing.

   [High cost – Share resources- Secret personal information- None of these]

3. Cloud computing providers are like ....

   [Amazon – Google – Microsoft – All of them]

5- Put (✓) or (X) in front of the following statements:

1. Cloud computing can be considered as a network of servers with software and applications, which are connected to computers on the internet. ( )
2. iCloud, Google Music are email services. ( )
3. Infrastructure includes the hardware like processors, servers and storage media. ( )
4. Providing internet connection is not of the requirements to use cloud computing. ( )
5. Sharing resources is one of the benefits of cloud computing. ( )



Prepare for the next lesson

Having known the Cloud Computing services

How can you use any of them?

The fourth topic

CLOUD COMPUTNG SERVICES

OBJECTIVES

By the end of this lesson, students will be able to…

- search to know how to use cloud computing services.
- create an email account
- use one of the cloud computing services.
- create a document using the service
- process the document , edit and save
- share the document
- discuss the effect of using information technology services in learning and life fields.
- use the basic processes to deal with applications
- share and exchange content and files through email or share file tools.
- use information technology tools to exchange date with colleagues.

How to use cloud computing services

Having known some of the cloud computing services, how can you use them?

- To use Google Drive or Microsoft Office 365 , you must have an email account .

Activity (1)

With the help of your teacher and cooperating with your colleagues search for how to use cloud computing services.

………………………………………………….

………………………………………………….

-- To use Google Drive services you have to do the following:

1- Create a Gmail account

2- Enter the required information

3-Activate the account

Create an email account for cloud computing

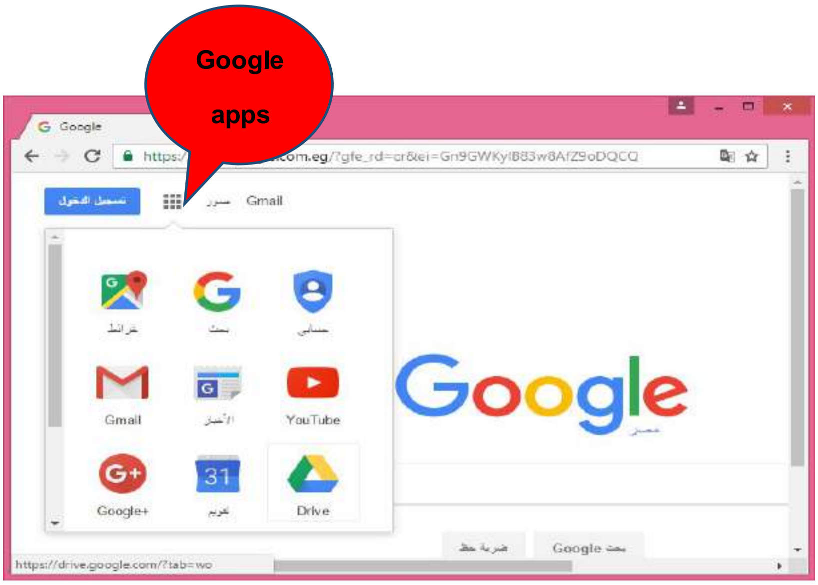
To create a Gmail account do the following steps:

1-Open the internet browser, write the Google URL to upload the homepage

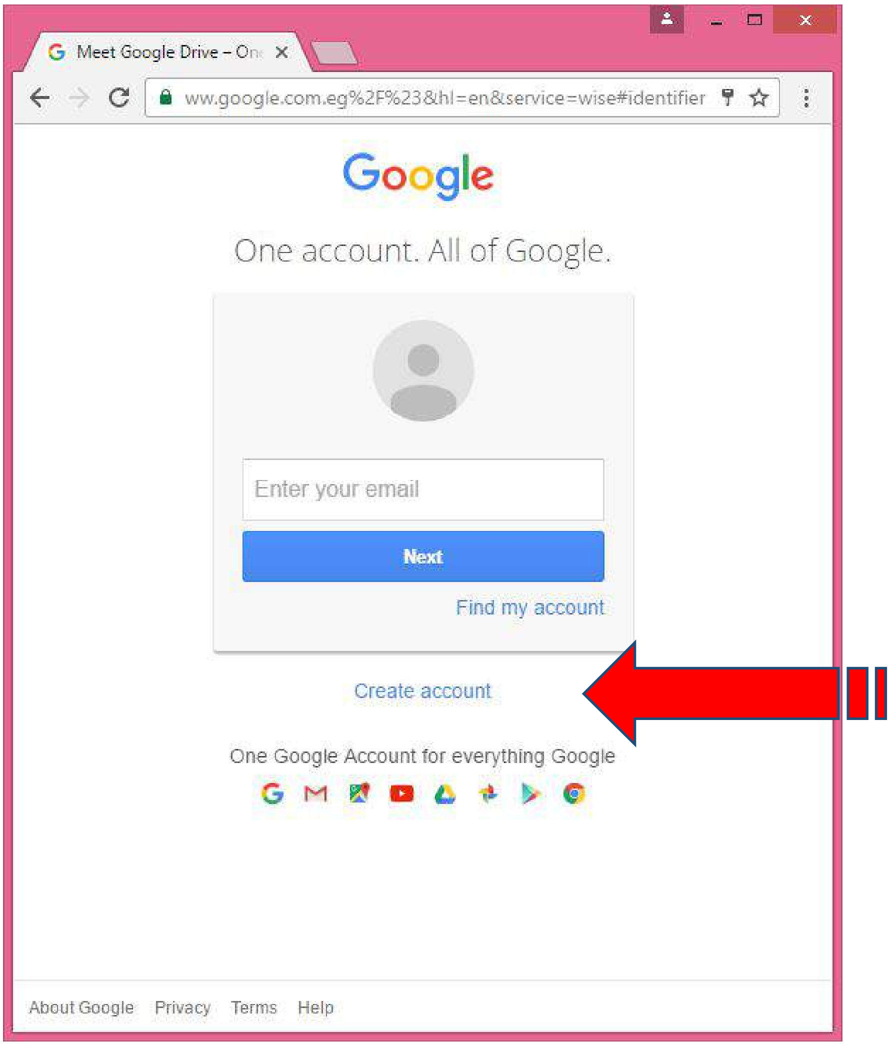
2- Click the Gmail icon or select it



Notice: You can also select Google Apps, and select Drive

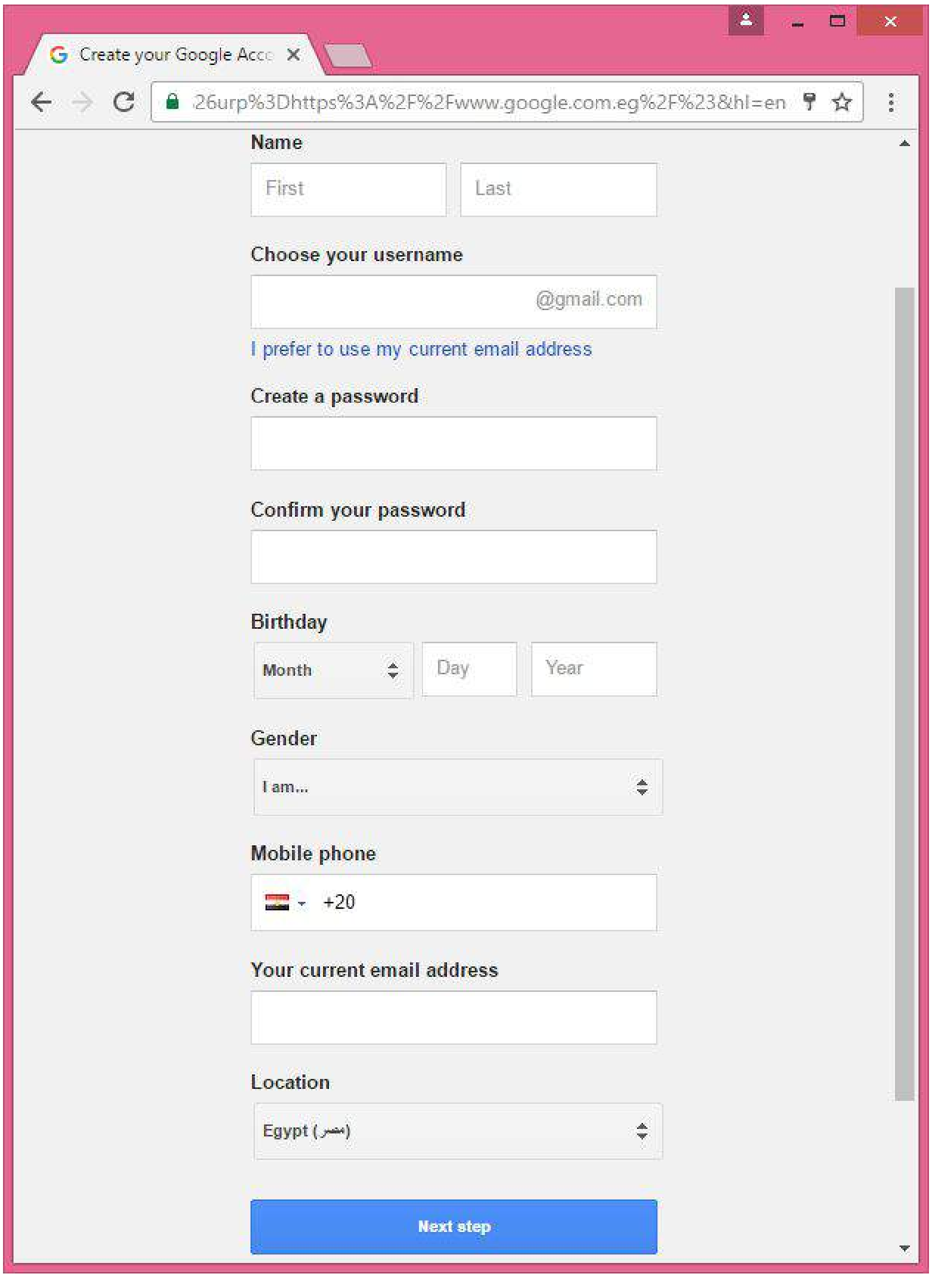


The main page Gmail appears



3- Click “Create account”

Account information registration form appears



4- With the help of your teacher enter the required information

5- Activate the account clicking Next Step

Activity (2)

With the help of your teacher and cooperating with your colleagues , create a Gmail account.

………………………………………………………

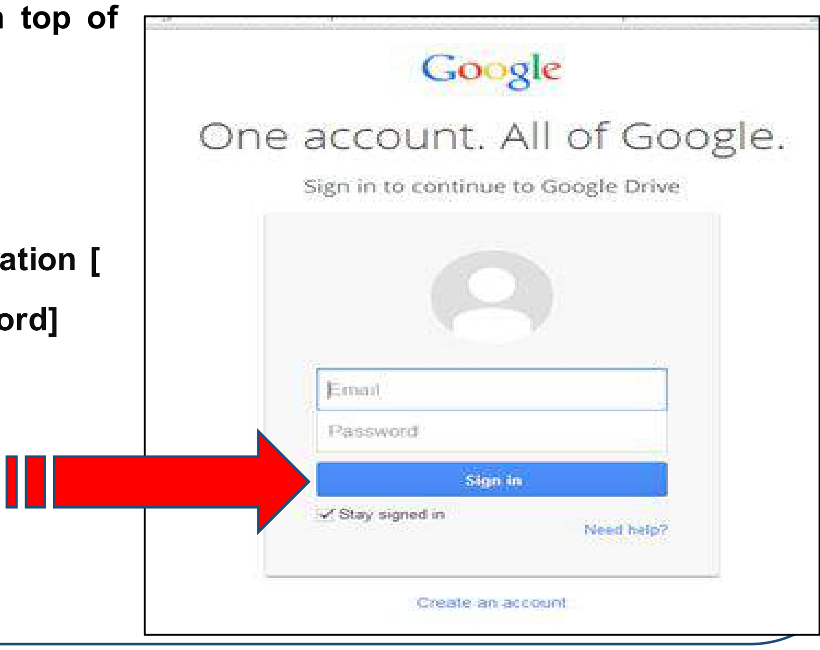
………………………………………………………

Using a cloud computing service

To use one of the Google Drive services, it goes from the email account you created. Follow these steps:

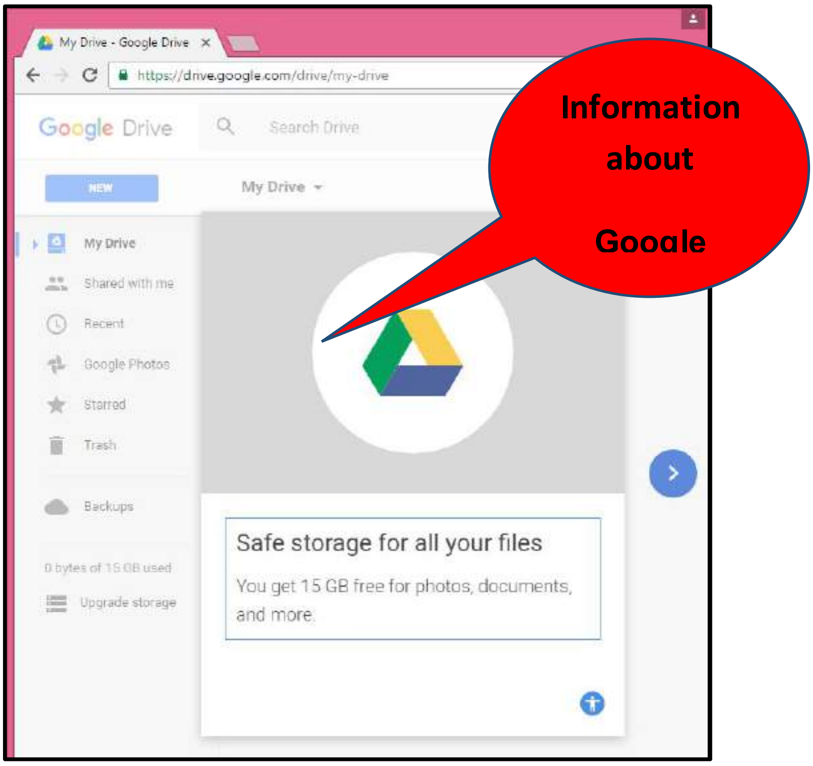
- open the internet browser
-Write Google in the address bar and wait till it uploads the homepage.
- Click  Drive on top of the page

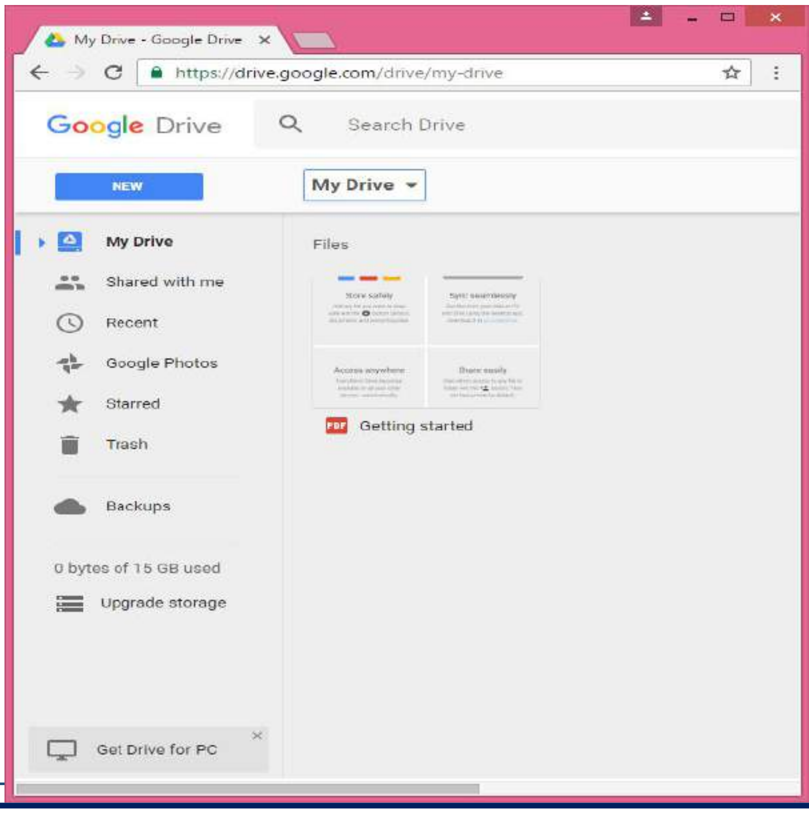
- The homepage will display
- Enter your accouynt information [the amail account and password]
- Click sign in



–The main page of cloud service will appear and a dialog box will give you some information about Google Drive

–Read them by the help of your teacher and close it.





–After closing the dialog box, the main page of your cloud computing account appears

Activity (3)

With the help of your teacher abnd cooperating with you rcolleagues, try to know the Google drive services

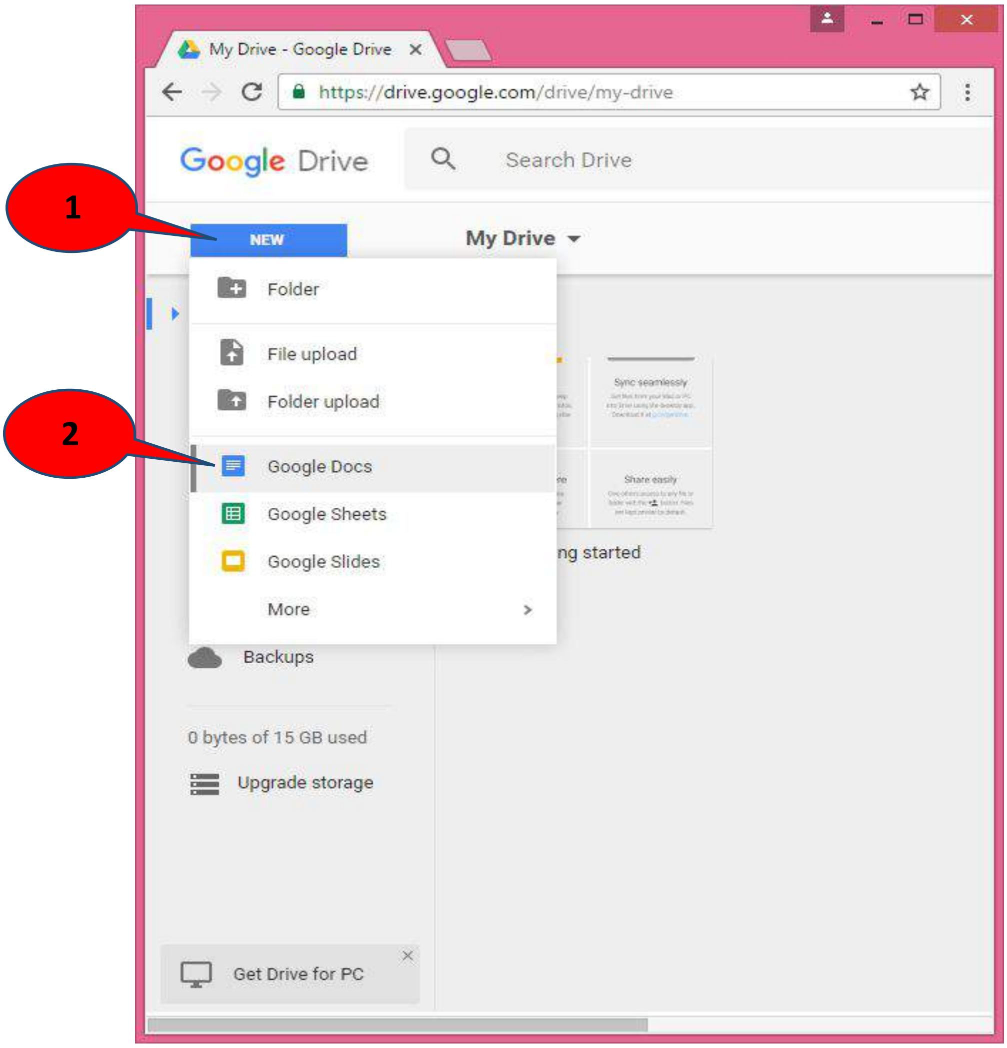
To identify Google drive Services you can use the Help tool

Creating a document using Google Docs

Through the cloud computing service, you can create a document using Google Docs , follow these steps:

1- Click New

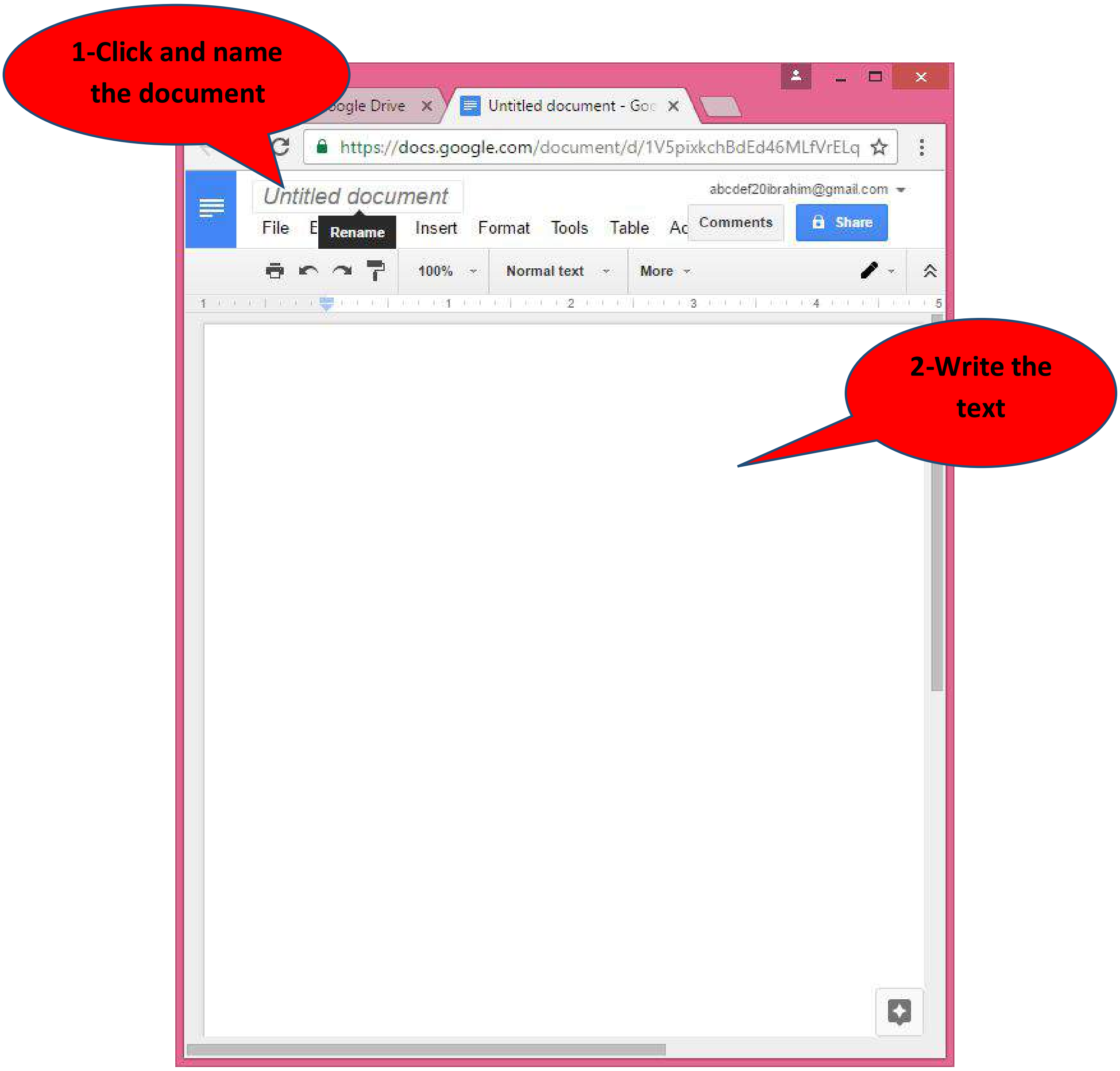
Select Google Docs from the drop list



A docment will be created

1- Name the document

2- Write text in the text place


1-Click and name the document
2-Write the text
Untitled document
Rename
https://docs.google.com/document/d/1V5pixkchBdEd46MLfVrELq
File
Insert
Format
Tools
Table
Comments
Share
100%
Normal text
More

Activity (4)

From the FILE menu do the following:

Save the cocument

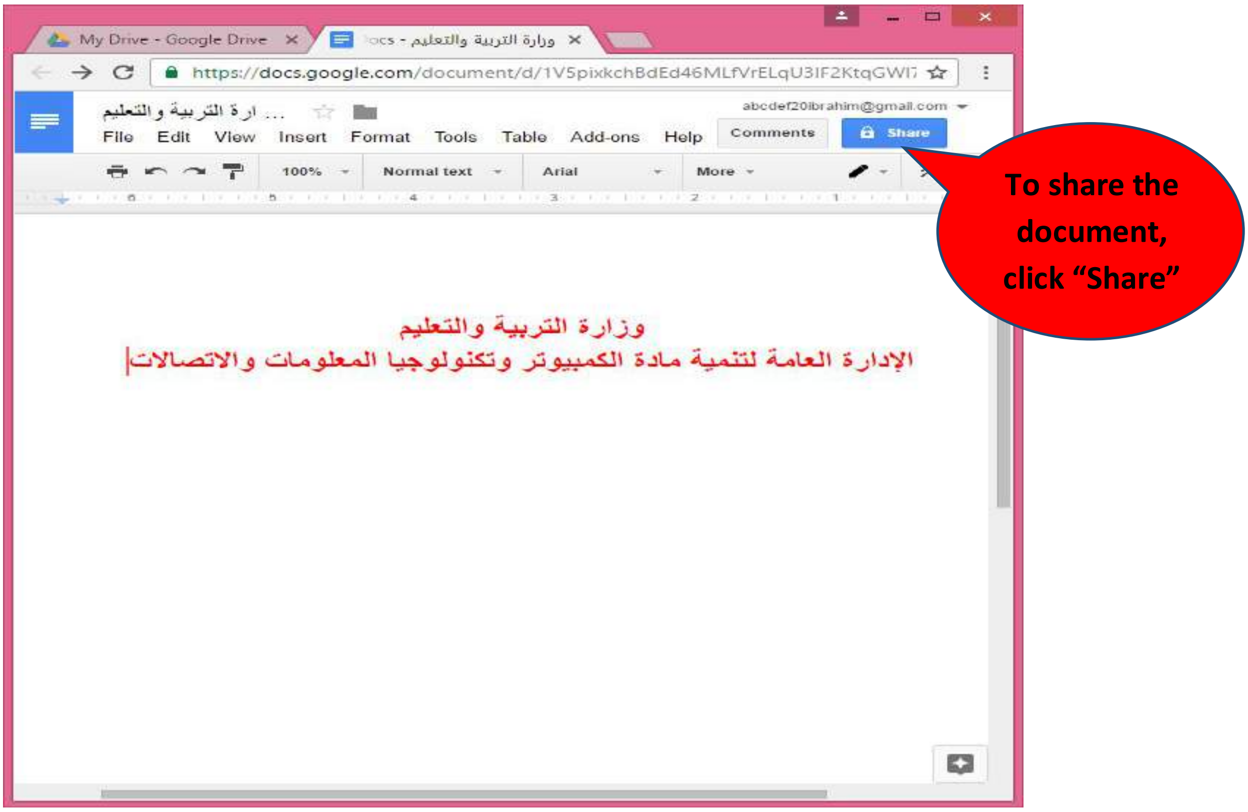
Rename the document

Page layout setup

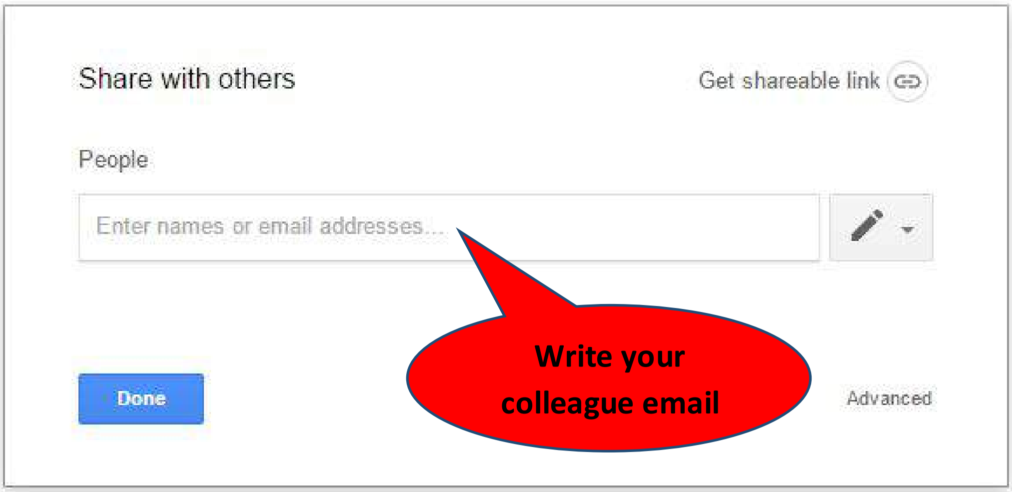
Print document.

Share your document with a colleague

After writing the text in the document , you can share the document with your colleagues by clicking “ Share “



The following dialog box appear



In the dialog box, you are asked to enter your colleague's email address to share with them .

NOTICE: the allowed email should be on google.

Activity (5)

Create a document , format it and share it with your colleagues.

REMEMBER

To create a Gmail account:

1-Open the internet browser, write the Google URL to upload the homepage

2- Click the Gmail icon or select it

3- Click "Create account"

4- Enter the required information

5- Activate the account clicking Next Step

Create a document using Google Docs

1- Click New.

2- Select Google Docs from the drop list.

QUESTIONS



1-Complete the following

1. To use Microsoft Office 365 service, you have to ....
2. To create a document using Google Docs, click...........and select

   .... from the drop list.

2-Complete the following

Cloud computing services are like:

....

....

....

Choose the correct answer:

1- To share a document with your colleagues, click ....

(Share-Copy- Cut–Paste)

2- To create a new account on Google Drive, select ....

(Sign in-Copy account-Delete account-Create account)

3- To create an email account on Gmail, open the internet browser and write Google in the ....

(tool bar – address bar – menu bar – all of them)

4- ✓ or X in front of the following sentences

1. To use the Google Drive services, you have to get an email account using the cloud computing.
2. To create an email account on Gmail, click Google apps and select Drive.
3. The allowed account to share document with by using Google Drive must be on Google.
4. You can save a document you created by using Google Drive service.



Prepare for the next lesson

Having known how to use the internet and its applications

What are the bad effects you may face while using the internet?

The fifth topic

Internet safety

Objectives

By the end of this lesson, students will be able to…

- identify the correct seating in front of the computer
- practice the correct seating in front of the computer
- identify some of the concepts and idioms of the internet safety
- state as many forms as possible of cyber bullying.
- share ideas to inform colleagues about the importance of internet safety

Internet safety



Depending on information technology nowadays has become essential; in our lives. Although the internet has opened a lot of scopes wide, internet safety and protecting personal data are of the most important issues for users and developers, especially because our students spend a lot of time in front of the computer surfing the internet.

In this lesson, we will know about the correct seating in front of the computer and the safety elements connected to this.

Activity (1)

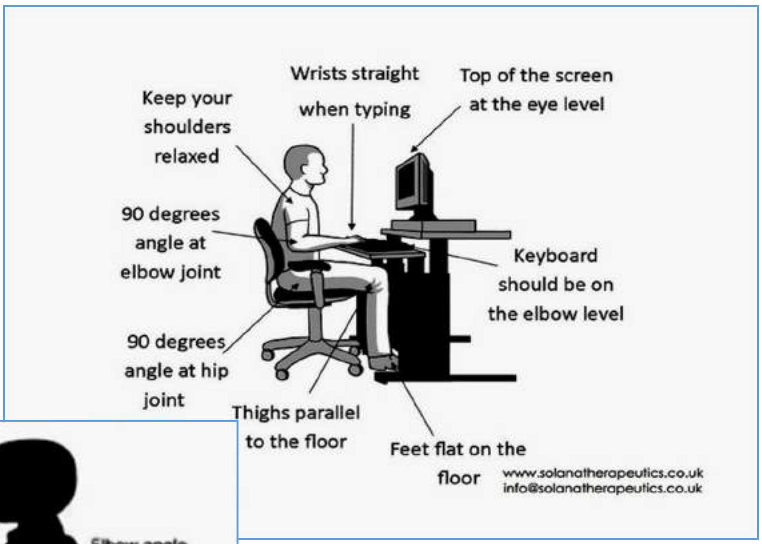
By the help of your teacher and cooperating with your colleagues, state how to sit correctly in fornt of the computer.

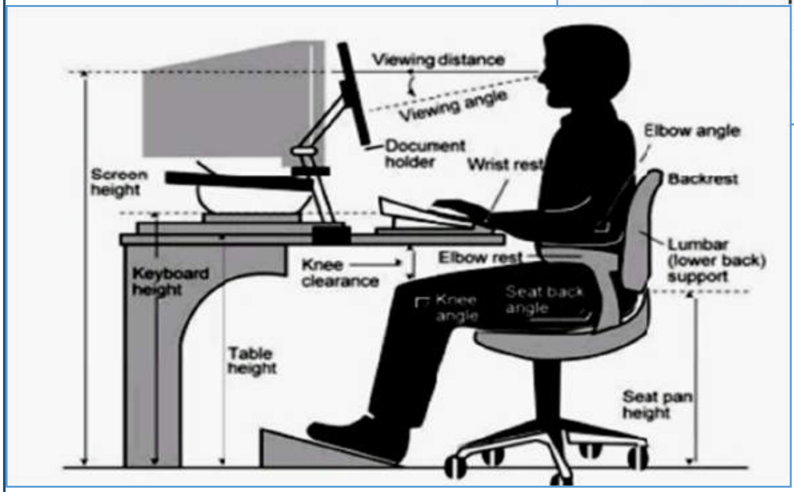
....

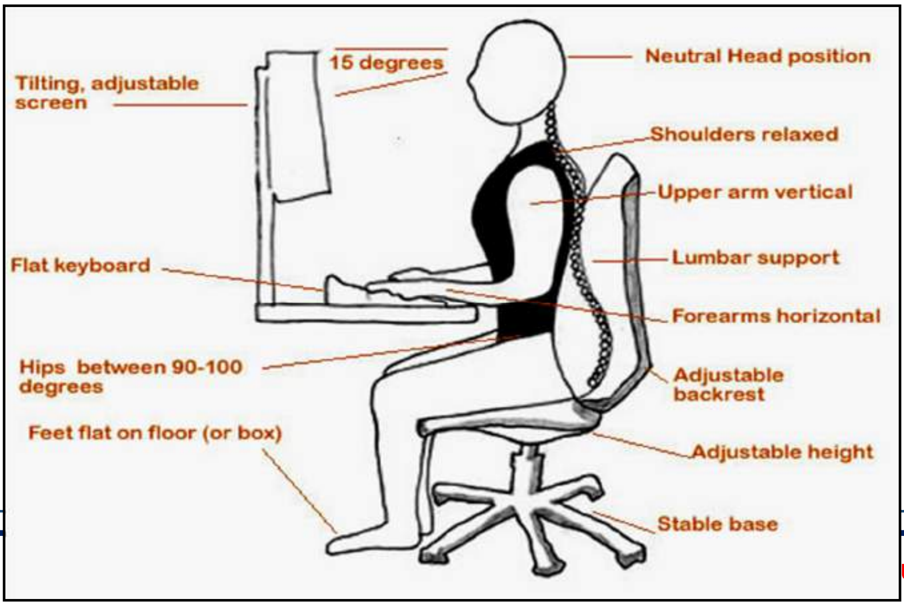
....

....

Correct seating in front of the computer







How to keep healthy in front of the computer:

1- Select the suitable light source and position

2- Change your seating and sight direction every 10 minutes for 10 seconds. It is advisable to open and close your eyes to avoid eye drought.

3-Stand up every 30 minutes to activate the blood circulation and renew activity

4- The level of the chair and the computer should be suitable, the chair suits your length and it is better to have a back and head support. You must sit upright.

5- Leave a distance of about 50 -70 cm between you and the computer, because the computer screen emits different rays like infrared , ultraviolet , x-ray and microwave rays, which are so strong and harmful on the long run. The best way to decrease these dangers is to keep away from its source for a distance of about 50 cm and use a low radiant screen.

6- Move your knees randomly every20 minutes at least as the joints are affected by the way we sit, and the knee is the most affected one.

7 – The best place for the set is to be opposite to you. The part with hardware and the cables should be away of about half a meter at least.

8- Move your hand when using the mouse continuously.

9- Move your feet in time of long sitting.

10 –Put on heavy socks in winter to warm up your feet.

Some idioms and concepts of internet safety

- **–Cyber Bullying:**

It is the wrong way of expression in chat rooms or messaging or even SMS either on the internet or the phone.

- **Happy Slapping:**



It is the attack of a victim while not paying attention. The partner takes a photo by the mobile phone or digital camera on the computer, then publishing the photo.

- **Phishing:**



It is pretending to be an official body to get personal and financial information about others.

- **Contempt:**

It is adding rude comment in a chat online.

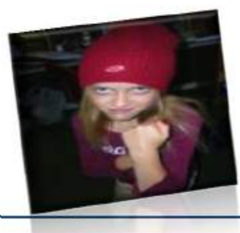
- **Spam mesages:**



"On the Internet, nobody knows you're a dog."

They are the undesirable messages that come from different places with advertisement or news that may contain a virus or harmful material.

- **Firewall:**



It is the software or hardware that prevents unlicensed people from surfing certain illegal or impolite sites.

Activity (2)

With the help of your teacher and cooperating with your colleagues:

Design a digital chart with guidance to avoide the malusage of internet.

....

....

....

REMEMBER

How to keep healthy in front of the computer:

1- Select the suitable light source.

2- Change your seating and sight direction every 10 minutes for 10 seconds.

3-Stand up every 30 minutes.

4- The level of the chair and the computer should be suitable.

5- Leave a distance of about 50 -70 cm between you and the computer.

6- Move your knees randomly every20 minutes..

7 – The part with hardware and the cables should be away of about half a meter at least.

8- Move your hand when using the mouse continuously.

9- Move your feet in time of long sitting.

10 –Put on heavy socks in winter to warm up your feet.

Some idioms and concepts of internet safety:

1- Cyber Bullying.

2- Happy Slapping.

3- Phishing.

4- Contempt.

5- Spam messages.

6- Firewall.

Questions



Complete the following

To keep your health during using the computer, you have to.....

1. ………………………………………………………

2. ………………………………………………………

3. ………………………………………………………

4. ………………………………………………………

What is meant by the following :

1- Cyber Bullying:

………………………………………………………

2-Contempt:

………………………………………………………

3- Spam messages:

………………………………………………………